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About a Kentucky Exhibition.

Taking steamboat at Cincinnati, June 7th, we reached Louisville the next morning—in time, as it fortunately happened, to be present during a portion of the first spring show of horses, by the "Southwestern Agricultural and Mechanical Asssociation." This was to open Tuesday, and was intended, as we understood, partly to inaugurate the first of a series of monthly stock sales on the grounds of the Society, and partly as an experiment to test the expediency of similar exhibitions in future years. It attracted fine stock in considerable numbers from different portions of the state, and must have been regarded, so far as we were able to judge from the first and a part of the second day, successful even beyond the anticipations of its friends.

The grounds of the Association are near the city, pleasantly located, and worthy a visit for their own sake alone, to agricultural men from the East. The manner in which the constructions are arranged, and the whole way of conducting a "Fair," differ so entirely from those to which we of the New-England, Middle, and North Western States, are accustomed at home, that most of our readers may be interested in a brief description, though often given before. Such of our Societies at least, as have permanently located grounds, may perhaps obtain from it some useful hints.

About forty acres are enclosed—partially with extensive lines of stalls for the use of animals to be shown. A great convenience is added in the large and commodious entrance building, containing ticket offices, rooms where ladies or others can sit while tickets are being procured, &c. Though not quite adequate for the large crowds attending the fall shows, other similar erections may be put up at no great cost to overcome this difficulty, while the comfort of such a *depot* for the temporary use and protection of visitors from the weather, struck us as a feature of no small merit. The gates at which tickets are surrendered, are a little way within. On the further part of the grounds, is a large two story brick house, entirely for the use of ladies. We did not enter it, but judging from its exterior it ought to contain every imaginable requisite that can be called for by those who are spending the whole day away from home, in many cases accompanied by children and servants. In these respects as in others, the grounds of the South Western Association, we are told, are but a type of all in the same state, and manifest a regard for the enjoyment and the necessities of visitors, far too generally neglected among us. Officers in common with others, dine with their families and invited guests in pic-nic fashion, from tables spread under the trees—those remaining for the day apparently calculating to bring their meals with them, instead of depending upon refreshment stands for purchased and often ill-prepared and unhealthy food.

The only other erection, we believe, was that grand center of the hopes and aims of exhibitors, and of the decisions of judges and spectators—the amphitheater. This encloses a ring of two hundred feet diameter, and will comfortably seat perhaps 7,500 visitors. The office of the president, secretary and directors, occupies a little nook near the entrance gate, accessible from without by windows for the transaction of business with exhibitors and others. In the center, the judges' stand is surmounted by an awning-sheltered gallery for musicians, and contains, visible to all, a glass case of plate—silver pitchers, cups, &c., which are to be the rewards of successful competition. Reward in addition is there, too, from the galleries around—the huzzas of the men and boys, and the bouquets of the ladies, are the abundant offerings of enthusiasm for favorite animals—the latter perhaps not unmingled with favoritism for good looking and gallant human competitors. The plaudits of the crowd, however, and the judges' awards, generally go together—though defeated candidates are now and then consoled by welcome tokens of favor from bright eyes and flower-laden hands. In the intervals of employment for the eye, or while the decisive scrutiny is going on in the center, music amuses the ear. The premiums are proclaimed as soon as decided, by a marshal or herald, and the premium animals or articles decked with blue for first and red for second prizes. Everything shown, that is not too bulky or inconveniently moved, is brought here for examination—larger implements and machinery only, being scattered over the grounds without. Each day has its published programme, and those who would see all, must begin at the beginning and remain till the end. If they may then obtain a more thorough and intelligent acquaintance with everything that has been brought before

them, than in our way of conducting a show, they lose the opportunity of gaining a superficial idea of the whole in one visit of a few hours or a single day. But it is far less a task to sit thus comfortably in the shade, than to be constantly on foot in sun or rain. For stock, the amphitheater is certainly a great way in advance of our rope-inclosed rings; although for the fruits, the flowers, the dairy products, domestic manufactures, &c., &c., that we exhibit, our mode of separate buildings is undoubtedly more commodious and easy of access for spectators. The two might be perhaps combined with advantage.

We have been a long time in surveying the grounds —let us glance at a programme of the exhibition, which is, as we have said, confined entirely to horses. The first day is devoted to Saddle, Matched and Draft Horses; the second to Blood Horses, respectively, with and without Pedigree; the third to Harness, Buggy and Riding Horses,—each class including rings for different ages of Stallions, Mares, and Geldings, and several of them for Mares accompanied by their Colts. A fourth day was devoted to the auction sale of such stock as should be offered, and notice was given that such sales would be hereafter held on the third Friday of every month.

In regard to age, the rule of the races was adopted, counting from January instead of from the birth of the horse. The pedigrees of thorough breds were required to be handed in for committee examination ten days before the show began. From the programme we were led to expect a grand cavalcade of all the horses entered, every morning before the regular exhibition commenced, but we believe this was not carried out. One feature, which must have been very fine, was introduced for the morning of Friday :—three rings were made, respectively for all the Stallions, Mares and Geldings of every age, *which had taken premiums during the preceding days*, a sweepstakes prize of $20 being offered in each. This would have given us a more complete view of the number of superior animals shown, than we were able to obtain during our stay—although we should not omit to express the opinion formed from what we did see, that as a whole the exhibition was one of the best ever held in this country, and reflected the greatest credit both upon its managers and upon the stock of the state. Our expectations were certainly excelled, and though there was not much competition in a few of the rings, particularly of thorough-breds, others were very full and close, as for example during the time we were present in Matched, Carriage and Buggy Horses and in Aged Draft Stallions and Geldings, while the judges particularly directed the marshal to announce that the show of blooded yearling colts without pedigree, was superior to any ever before held in the State or the Union, and that the display of aged buggy horses in harness excelled all they had previously seen for speed and beauty. The ring of 14 ponies ridden by boys, was also the theme of great admiration. We much regret that absence prevented our seeing either of the last mentioned.

We should be glad to publish the whole list of premiums awarded, but we have not room to accommodate it—for want of which we must confine ourselves to mentioning one or two of the exhibitors and their animals. The matched horses, bays, of Samuel Castleman, and the sorrels of J. K. Lincoln, both of Fayette, were remarkably fine, as were also several other pairs of carriage horses shown by different gentlemen. The matched buggy horses, sorrel, belonging to John C. Hull, of Louisville, instantly attracted the admiration of the spectators, and received the first prize in a ring comprising half-a-dozen additional and strong competitors. In a ring of nine draft stallions, over four years of age, the premium was taken by the chestnut sorrel of D. M. Kelly, of Louisville. Of four, between three and four years old, R. M. Parke & Co., of Hardin Co., took the first, and E. M. Blackburn, of Midway, the second—the latter gentleman also carrying off prizes on a fine three-year-old, and another yearling blood mare. Among 12 entries of aged geldings—draft—a beautiful display—the first was awarded to the black horse of Noah Ferguson, of Fayette, the second to the bay of Jacob Anthony of Indiana. Old "Wagner," shown among the blood stallions on the second day, was greeted with great enthusiasm. Gibson Mallory, Esq., of Louisville, from whom we should acknowledge much polite attention, was the taker of no less than four prizes for blood mares in different classes. A colt accompanying a blood mare, shown by D. Brennon, of Henry, was a splendid little fellow, and the recipient of unbounded and well deserved applause as well as a blue ribbon. Our own observation ends here. The sweepstakes prizes of the last day were taken :—for Stallions, 12 entries, by Solomon Lowe, of Fayette Co.; for Geldings, 14 entries, by Logan Railey, of Versailles, who was a large exhibitor; for Mares, 18 entries, by H. C. Duncan, of Nelson Co.

The officers of the Society,—Col. GEORGE HANCOCK, of Louisville, the President; Messrs. Strong, Miller and Mallory, Vice-Presidents; the Messrs. Brent respectively Treasurer and Secretary, Mr. Ormsby, Corresponding Secretary, and the Directing Committee, as well as the Agricultural public at large, should be congratulated on the gratifying attendance of spectators at the exhibition, the general competition it awakened, the efficient and excellent mode in which it was carried out, and the prospect of still greater success on similar occasions hereafter. If we have omitted to mention our indebtedness to Col. HANCOCK and many others, for their kind welcome and constant assistance, it is because hospitable generosity is almost too well known an ingredient of Kentucky nature to require particular remark.

We close with a brief paragraph in relation to the sales with which the last day was concluded. We understand that no very superior horses were offered, and that the prices realized,—nearly $10,000 for 45 single animals and 2 pairs,—being an average of about $230 —were considered excellent. The highest price was $1,460 for a Canadian Stallion.

Remedy for Bugs on Vines.

MESSRS. TUCKER & SON—I have seen in the Co. Gentleman, at different times, various modes, plans and suggestions for the extermination of the striped bugs from Cucumber Vines, and others similarly affected by them. But after trying several of those means, such as chicken-coops among the hills, soot and ashes, scotch snuff, &c., I find no plan so effective as frequent visits to the vine patches, and there kill all on the vines, and then make diligent search in and about the hills for more, and when found crush the wretches with the fingers. After having made a few such efforts, and disturbed their lurking places, those that may escape destruction will leave for parts unknown. To some this mode of destroying bugs may seem revolting, but water can wash off every impurity.

In regard to the egg within an egg, I brought to notice in January, I will acknowledge that freak of nature surpassed, and am inclined to think many more curious things could be told about eggs and chickens. E. KALB. *Rushville, O.*

Rapid Growth.

A row of young Scotch pines 2 or 3 ft. high were lately observed to be making a rapid growth in their leading shoots. Measurement was made, and one of the thriftiest was found to have grown *an inch and a half* in 30 hours. This fine evergreen may be classed among those for planting new places, where quick results are desirable.

"Kentucky Sheep"—and Cattle.

From Frankfort it is four or five miles to the farm and residence of ROBERT W. SCOTT, Esq. There we saw first the famous grazing parks of Kentucky. Partially shaded by trees, scattered here and there, singly or in groves, underbrush of every sort thoroughly cleared away, and weeds uprooted or constantly cut down, the blue grass gradually usurps the place of other kinds, and soon forms a sod as smooth and compact as the finest lawn. The pasturage it yields is noted as perhaps superior to that of any other region for feeding purposes. The effect to the eye, continually varying with the rolling surface, and heightened by the light and shade among the trees, would be a study for either landscape gardener or painter. There is a vast number of these blue grass pastures extending for a few miles up from the Kentucky river at Frankfort, through the counties of Woodford, Fayette, Bourbon, and others, and to some extent on the western side of the river, in Mercer, Washington, &c. They are in a state of more or less improvement, according to the circumstances or pleasure of owners, from almost primitive wildness to entire exclusion of every weed below or dying bough above. The majority we have seen, including Mr. Scott's, are highly improved, though the many duties of economical farming have precluded that almost absolute perfection obtained by the few with unlimited labor at their constant disposal.

Mr. SCOTT'S thoroughbred cattle number about 30, mostly descendants of the '17 stock as it is called—the early importations of Col. SANDERS and others—with occasionally a cross by bulls more recently introduced. They are thrifty, and many of them superior animals, retaining among the characteristics of their ancestors, good milking qualities, and a fineness of horn now-a-days frequently overlooked by breeders as immaterial. The principal breeding bull at present is "Brutus," from the herd of B. J. Clay, Esq. "Coquette," a handsome heifer, is to be illustrated in the next volume of the Am. Herd Book. "Lily of the Valley," "Haidee," and "Ruby 2nd," are fine cows; "Helen 2nd" is an example of unusual size; "Snow Ball," like another one we subsequently saw,—we think at Mr. Alexander's—never had a calf, but in both instances, the bag was distended, and each is now giving a small quantity of milk. We should add that Mr. S. has been engaged as a breeder for about twenty years, with the constant end in view of building up a herd suited for the ordinary wants and adapted to the climate of the State.

With a similar purpose he has combined the blood of different breeds, and at length produced the cross distinguished as "Kentucky Sheep." The opinion that neither of the foreign breeds by itself is quite suited to the farmer's wants in this State, we have heard very generally expressed. Many breeders prefer to keep only distinct varieties however, in order that purchasers may cross to their own taste; but Mr. S. believes that his long experienoe and knowledge of the qualities required, have enabled him to perform this part himself more successfully than could be done by raw hands with few or no advantages for the task at their command. He began about fifteen years ago, by putting a large and fine Saxony ram to the best of the native ewes, in order to obtain more delicacy in the mutton and thickness and fineness of fleece. Ewe lambs thus produced were crossed with an imported Bakewell ram, large and full in carcass and long and heavy in fleece. To secure something of the active and thrifty South-Down disposition and the superior qualities of its mutton, a ram of that breed was next introduced, effecting, in regard to the fleece, a greater thickness of the staple and diminished lenth. Cotswolds and Oxfordshire blood are mingled in subsequent generations. The best of the males now produced are used and sold for breeding, and inferior specimens fed as wethers. On one occasion sixteen of these, not completely fatted, were sold for $15 each for their mutton. Mr. Scott is sanguine that they will prove themselves superior in this particular, while he thinks them more profitable in respect to fleece than any other variety at present rates here—no distinction in price being made between fine wool and coarse. The number of sheep he now keeps, is in the neighborhood of one hundred and fifty, mostly of the "Kentucky" cross.

The farm is of about nine hundred acres, of which perhaps one hundred and twenty-five are in Indian corn, thirty in rye, sixty each in hemp and oats, and eighty in wheat. The remainder is mostly pasturage. A field of orchard grass was very fine. Of the hemp, that earliest planted was the most promising, owing to drouth in the latter part of spring. Mr. S. had in progress a considerable crop of "Chinese hemp," from the seed first imported into this country, two or three years ago, by WILLIAM VANCE, of Woodford, from Paris, whither it was brought from China. It is said to have yielded 2,000 lbs. per acre, while it is seldom that the ordinary hemp exceeds 1,000, and the average crop is perhaps not over five or six hundred. The Chinese hemp is considered a great acquisition, and has been very generally disseminated during the short time since it was introduced.

Mr. S. had been troubled in common with many others the present season, with the failure of his corn to grow. He was of the opinion, that what had succeeded best was that which had been left standing in the shucks till thoroughly hardened and in all respects mature. It is a hint which may be of value in avoiding a recurrence of the difficulty. This year multitudes of fields have had to be planted a second time.

The hogs kept by Mr. Scott are a cross between the Irish Grazier and Woburn varieties, and number nearly two hundred. A pair of imported Maltese Goats are worthy of note. A pond on the place is a favorite winter haunt for Wild Geese, and some of them had become demesticated, and were mingling with their Hong Kong and Bremen companions, and raising their own broods, apparently in entire satisfaction with their new way of life.

From Mr. Scott's we passed through Versailles to Sumner's Forest, the residence of our friend JOSEPH A. HUMPHREYS, Esq., to whom we are indebted for the opportunity of being present, Thursday, at the sale of of Dr. JOHN B. PAYNE, near Lexington. This included a number of well-bred horses, and upwards of 40 Short-Horn cows, heifers, and bulls, of various degrees of merit. The sale was throughout one of the most successful, we were told, that Dr. P. has ever had. The attendance was large, perhaps upwards of three hundred. The horses sold especially well, averaging we think, about $220 each. Six young bull calves brought in the aggregate $599. The other stock ranged from $31 up to $250. We were sorry not to have rsceived a memorandum of details more in particular, which Col. DELPH had kindly promised to furnish. Under his persuasive tongue most of the fine stock of several counties are wont to change owners; and the amount of property of this kind for which he secures purchasers from year to year, is of course very great. He appears to possess a happy faculty of drawing out competition and running up bids.

With Mr. Humphreys, on Friday, we drove over to Waverly, as the place of his father, D. C. HUMPHREYS, Esq., has been called for many years, and the next morning, in company with several gentlemen, proceeded to Woodburn Farm, to see the fine and extensive herd of R. A. ALEXANDER, Esq., whose position as the owner of large estates both here and in Scotland, has enabled him to select and import specimens of nearly if not quite all the breeds most highly esteemed by breeders, both at home and abroad. An account of this visit will have to be deferred until another week.

Woodburn Farm and its Stock.

ROBERT A. ALEXANDER, Esq., at whose residence we closed our last letter, is very extensively engaged in improvements of various kinds on his lands in Woodford Co., Ky. They include a number of farms, about twenty-seven hundred acres in all, of as good land as this garden region of the State can anywhere boast. Wherever they are bounded by public roads or lanes, he designs enclosing them with stone wall, of which he has already a considerable quantity laid up, and that in the most substantial and durable manner. Although large sums have been already expended in this and other ways, his projects as to what the estate shall become in future years, are yet scarcely entered upon, so wide is the field they have to cover. Constantly increasing its extent, he has laid out for himself a task of no little magnitude in the improvement of the whole; but one which, notwithstanding numerous engagements and heavy expenditures of other kinds, he has ample means and taste for completing, in a manner perhaps superior to anything we have as yet in this country.

We spent a portion of two days in viewing Mr. A.'s herd at the homestead farm, and found even this time inadequate to enable us to do justice to its merits or extent in the following notes. The part of Kentucky in which he is situated, comprising the whole counties of Woodford, Fayette, and Bourbon, and portions of those adjoining, is now, we presume, entitled to rank as the head-quarters of fine stock for the Union, and very likely for the world; by which we mean that there is probably no contiguous territory of equal extent elsewhere that contains so many good and famous blooded animals, whether cattle or horses, as this. It is the laudable ambition of Mr. Alexander to make his herd the best in his own locality, satisfied that if there unequalled, he can safely challenge "the rest of mankind." It is but fair to add that there are one or two other earnest aspirants for this post in the same vicinity. The number of smaller herds of superior quality is also very great, and the honors at the autumn fairs are by no means to be obtained without close and eager competition.

At the time of our visit, Mr. A.'s stock comprised one hundred and forty-three head of thorough-bred cows and heifers, and about forty of bulls and bull calves. Of the females, no less than fifty-nine are imported. The first importation was made in 1853, just before that of the Northern Kentucky Importing Company. The object in view was to obtain the best animals to be had of different strains of blood, and five bulls and twenty-one heifers were accordingly selected—with subsequent importations, including such celebrated names for breeders, as those of Messrs. Bell, Fawkes, Townley, Tanqueray, Booth, Bates, and others. His selections of that year having been made before those of the Importing Co., and from much the same sources, he nevertheless chose to attend their sale in order to possess himself of some of the choicest fruits of their judgment as well as his own. Here he purchased "Orontes 2d," for $4,525, "Mazurka," for $3,050, "Maid of Melrose," for $2,200, and "Equity," for $1,000. In 1854, he imported two bulls and twelve females, and in 1855, about twenty-five head, all cows or heifers. The remainder of the herd are of his own breeding or purchased from Kentucky breeders of the highest standing, and including a few animals whose pedigrees run back to the importation of 1817.

His breeding bulls are ten,—of which two were let at his last fall's sale—"Lord John" for $700, and "Orontes 2d" for $655; and two more are standing to cows at his stables, each for $50 per calf—"2d Duke of Athol" and "Sirius." They are both excellent animals and apparently general favorites—the latter having taken eight premiums in the year 1855. The others, whose services he confines entirely to his own herd, include "Grand Master," a very superior bull, of Mr. Fawkes' breeding, and "Fantichini," by Lord Ducie's "Beaufort;" "El Hakim," by "Grand Duke," (now owned, as our readers will remember, by Mr. Thorne, of Dutchess Co.,) out of Mr. Booth's cow "Fame," and "Duke of Airdrie," by "Duke of Glo'ster," (now belonging to Messrs. Morris and Becar,) out of "Dutchess of Athol." Of the young bulls we saw, many were very fine, and we should be glad to speak of them all more in detail.

A commodious spring house nearly completed, attracts our attention as we go to the stables. It is built of stone, and as solidly as possible—contains milk, churning and store rooms, and one for a boiler for steaming purposes below, and above apartments for a man and his wife in charge. The cow-house is not yet completed. It is also of stone, and substantial enough to outlast many generations of its inhabitants. In the form of a T, the roof projects over the walls, and forms a wide covered walk around the whole. The interior arrangement is very simple—the stalls being in two rows, with the heads of the occupants toward a feeding path between—each calculated for two. The floor is of earth, except a planking four feet wide for their hind feet to rest upon. The long range represented by the top of the letter, is designed to contain the cows of the breeding herd, and the remainder is allotted to such animals as are for sale—a small portion at the junction being reserved for apparatus used in preparing feed. Our readers would be much interested in a fuller description, with the dimensions, plans, &c., which we think we can promise them from Mr. Alexander at some future day.

Among Mr. A.'s cows are several that would rival the very best in our finest eastern herds, and many that would surpass all but the finest, both here and at the west. Among these are the Duchess of Athol, the Mazurkas, 1st and 2d, Frances Fairfax, Vellum, Forget-me-not, Duchess of Airdrie, Fenella, and Prune, which last has a beautiful calf sired by 2d Grand Duke, before his importation by Sam'l Thorne of this state. These, and many others of beautiful form and general excellence, we saw grazing in the fine pastures in which nearly the whole of Mr. Alexander's lands are lying. Some of the heifers were also very handsome and promising, for example, 2d Duchess of Airdrie, and Mazurka's twins.

We must not forget to mention among Mr. Alexander's stock, his Ayrshires and Jerseys, although popular opinion at the west seems scarcely to rate either these breeds or the Devons, much if at all above the common "scrub" of the country—a small, bony, black-haired, blue-nosed animal, which nevertheless, from long breeding, for its milk alone, (being utterly hopeless for other purposes,) has come to possess here and there, a soft and richly colored skin, and fine bag, that some of its betters might envy. Both the Ayrshires and Jerseys we saw, were really very fine specimens of their breeds—indeed, would not have been imported unless sufficiently superior amply to justify the trouble and expense incurred. They can hardly fail to recommend themselves in time, to favorable notice in their own peculiar spheres. But the Kentuckian is devoted with equal enthusiasm to his horses and Short-Horns, and no rival can hope to displace the latter in in his affections.

Which reminds us that the equine moiety of the Woodburn stock has not yet been touched upon. It includes several choice animals, and we understood that one purpose of Mr. Alexander's present visit to Europe, (he sailed, we believe, on the 5th inst.,) is to procure other valuable blood horses. A sister of the famous

Lexington, chestnut, sired by the celebrated Wagner, a number of Glenco fillies, and others, are worthy of note. A Glenco horse from a Medoc mare was tried on the course while we were present, and ran his mile, with little or no previous training, in 1:54.

We were indebted to Mr. Alexander for the opportunity of seeing at the stables of Mr. FRANCIS HARPER, *Glenco* himself, now 25 years old, and bearing his age well except with respect to sight, having been totally blind for about three years. Also *Fashion*, owned by Messrs. Reber and Kutz, of Ohio, with *Monarch's* colt by her side. And last, *Lexington*,—whose four mile heat in 7:19¼, is the fastest time on record,—and a fine colt of his out of a Glenco mare. *Lexington* is not equal to his fame in his appearance; one would scarcely select him out of a number of ordinarily handsome well-bred horses as the one to have challenged the world successfully.

Out-Door Cellars.

MESSRS. EDS.—In yours of 28th of Feb., H. of North Lawrence, N. Y., makes inquiry about the construction of an out-door cellar, "on level, sandy land." Three years ago last fall, I made an out-door cellar for storing roots, cabbages, potatoes, &c. It is about fifteen rods from my house, and although not on "level sandy land," I am so pleased with it, I will give a short account of its construction, as it may furnish H, or some other of your readers, with some hints that may be useful, if they wish to make a cellar "entirely separate from other buildings."

The cellar under my house, although drained, is very damp and warm, too much so for keeping apples, potatoes and roots in the best condition. Some years I have stored large quantities of turnips and other vegetables in it, but every time the door was opened, there would be a rush of the warm air of the cellar, tainted with the smell of turnips, &c., into the rooms of the house, which was anything but pleasant. To remedy or abate this nuisance, I determined to make an out-door cellar. I selected a spot on a moderately sloping hill-side, and excavated the earth from a square of about seventeen feet. Then firmly fitted up joists, as is done for building the walls of lime and cobble-stone houses. Against the outside of the joists, I placed, edgewise, four planks, about one foot wide, and 14 feet long. This left the cellar 14 feet square, inside. Procured a cask of fresh lime, and two or three casks at a tan-yard; this had much hair mixed with it; also a cart-load of sand; with these I made a large quantity of mortar. The stones for the wall were mostly cobble stones collected about my fields. Commenced the wall by spreading a layer of mortar on the bottom of the cellar between the plank and the bank of earth; then laid a tier of stone 12 to 15 inches wide, then filled up the interstices between the stone; then another tier of stone and mortar, much like laying a brick wall. This course was pursued till the walls came even with the top edges of the planks. The plank were then raised their width, and propped up, and another 12 inches of stone and mortar. In this way the walls on three sides were raised to the height of seven feet. On the south side the wall was only about three feet high. From the sill on this wall to the plate, it was boarded on the outside, and lathed and plastered inside. At the south-east corner is a doorway, about three and a half feet high, two and a half wide, with double doors, one opening into the cellar, the other outward; this is not hung by hinges. Sills lay upon the walls, and upon them a good roof; a double floor, covered with a few inches of saw-dust, is the only protection against frost over the cellar. In the winter, enter the loft by a door in the east end; a scuttle or trap-door in chamber admits of going into the cellar any time during winter. Apples and all kinds of vegetables keep in much better condition in this cellar than in that under my house. The cellar was a cheap concern, mostly built by odd jobs, and I should be unwilling to part with it for twice the sum it cost.

Formerly many farmers in this section of the country had out-door cellars. They were usually built upon a side-hill; the sides walled up a sufficient height; the top covered with large hewn timbers, and some two feet or more of soil over the timbers; but such cellars were damp from the rain and snow water dripping down between the timbers; this caused them to rot after a few years, and the cellars became useless.

The chamber over the cellar is a convenient place for storing rakes, scythes, &c., when not in use.

We would just say to your correspondent, H, that he can safely build a cellar on level land, wholly above ground, if he will surround the walls with a mound of earth sufficiently thick to keep out the frost, and put over it a roof similar to the one above described L. BARTLETT. *Warner, N. H.*

Agricultural Statistics of Massachusetts.

We are indebted to C. L. FLINT, Esq., Secretary of the Massachusetts Board of Agriculture, for a very valuable volume, entitled "Statistical Information relating to certain branches of Industry in Massachusetts, for the year ending June 1, 1855. Prepared from official returns, by Francis DeWitt, Secretary of the Commonwealth." These statistics fill a volume of over 460 pages, and were intended to include the entire products of the industry of the State, but owing to a defect in the law, several, and some of them important, branches were entirely omitted. Still the sum total of the industrial products of the State for the year, amount to $295,820,681, being an increase of $171,071,224, since 1845, the time when the last returns were made. Of this amount, the agricultural products were as follows:

Horses and Horned Cattle,	$15,423.521
Sheep and Wool,	464,889
Butter, Cheese and Honey,	2,161,845
Corn, Indian and Broom,	3,061,731
Potatoes,	2,521,906
Wheat,	73,928
Rye,	560,201
Barley,	110,158
Oats,	563,729
Onions,	187,446
Turnips,	116,351
Carrots,	148,041
Beets,	484,563
Other Grain and Root crops,	286,202
Millet,	5,509
Apples, Pears, &c.,	1,315,241
Hay,	8,702,317
Hops,	47,461
Tobacco,	57,473
Cranberries,	135,199
Beeswax,	942
Maple Sugar,	52,293
Swine,	581,536
Poultry and Eggs,	52,688
Milk,	755,887
	$37,871,042

Whole number of Sheep, 145,215—Horses, 80,321—Horned Cattle, 261,521—total number of Swine not given.

Of Wheat, there were 2,600 acres, averaging 15 and 10-13ths bushels per acre—Indian Corn, 91,056 acres, average per acre, 28½ bushels—Rye, 42,143 acres, average 12 and 6-14ths bushels per acre—Barley, 4,971½ acres, average 20 bushels per acre—Oats, 37,-

623 acres, 21 and 1-13th bushels per acre—Potatoes, 41,982 acres, average 93 and 5-7ths bushels per acre—Onions, 770 acres, average 313 bushels per acre—Turnips, 2,267 acres, average 231 bushels per acre—Carrots, 1,480 acres, average 427 and 1-7th bushels per acre.

These facts are important, and we hope the other States will follow the example thus set by Massachusetts, and order the collection of the statistics of their industry at least once in ten years. The average acreable products of the soil, are below what we anticipated, and greatly below, we presume no one will deny, what they ought to be, and would have been, had the same skill been brought to bear on its culture that has been used to increase the products of its manufactories.

Trial of Mowing Machines,

At Morrisville, Madison County, N. Y.

A trial of Mowing Machines was held at Morrisville on the 2d July inst., under the auspices and immediate supervision of the Madison Co. Ag. Society, of which ALPHEUS MORSE, Esq., of Eaton, is President, and L. P. CLARK, Esq., of Morrisville, Secretary, occasioning a large and respectable concourse of the tillers of the soil, and others interested in the settlement of the question of the comparative merits of some of the best mowing machines in general use in Central New-York. The present high price and extreme scarcity of agricultural labor, is forcing the farmers to a full conviction that they must use all the labor-saving engines within their reach, of which the mowing and reaping machines are so brilliant and effective examples, fully establishing both at home and abroad, the superiority of the inventive genius of the American mechanics.

Three machines were upon the ground, and entered into competition for the palm of superiority: one manufactured by R. L. Allen, 191 Water-st., New-York, under the care of Daniel Gates, of Chittenango, agent; one of Manny's, with Wood's improvements, under the supervision of E. P. Moore, of Eaton, agent, and one of Ketchum's manufacture, by Howard & Co., Buffalo, Morgan Butler, New Hartford, Oneida co., agent. The programme of points to be decided by the judges, had been previously drawn up and circulated through the county by the accomplished secretary of the society. They stand as follows, with the awards of the judges annexed:

Points.	*Awards*
1st. Operation of the machines on fair ground, driven at first by the same driver and team, and afterwards by the exhibitors themselves, or their agents.	Allen's.
2d. The lowest and smoothest cut of each machine.	Allen's
3d. Trial on rough, uneven and uncleaned bottom.	The judges had too much charity for the machines to put them there.
4th. Evenness of grass, as left by the machine, for curing.	Ketchum's.
5th. Freedom of knives from clogging when working slow.	Neither Ketchum's nor Allen's, clogged.
6th. Ease of adjusting the cutting bar when the machine is in motion.	Manny's.
7th. Amount of power required to perform a given amount of work.	Comparatively, we think Allen's mach'e requires the least power, having the least side draught.
8th. Liability to injury when coming into contact with stones and other obstructions.	Manny's and Ketchum's least liable.
9th. Best and most convenient arrangement of driver's seat.	Allen's for safety, and Manny's for regulating the dip of the cutting bar.
10th. Durability and simplicity of construction.	Ketchum's.
11th. Facility of transportation from one field to another, and for escaping obstructions in the path.	Allen's for safety, and Manny's for expedition.

The machines were tried in the first place in a field of light grass, belonging to Ira Holt, and after each machine had been driven around by the same driver, Mr. Torpey of Nelson, and the same team, it was evident that Allen's machine at a moderate gait, cut closer and with less draught than either of the others; but when the machines were placed under the charge of their respective agents, all of them did very good work, and in heavy, standing grass it was difficult to decide which was the best. Ketchum's, however, does not cut clean in light grass, and appears to have a great amount of side draught in heavy grass. It is a very strong, compact machine, capable of being worked in rough, uneven ground, as a young man living in the neighborhood of Morrisville fully proved to the amusement of the spectators, by a gratuitous exhibition of himself and machine in plowing up a host of cradle knolls.

Before mowing machines can be advantageously and properly used, farmers must learn to plow and put the soil when seeding down, in a more even manner, pick up all loose stones, and place a stake against all fast rocks above ground. It is not fair to test the strength of the machine or the team, by allowing stones to obstruct the cutting-bar.

After demolishing Mr. Holt's grass, the machines were then moved half a mile, to Henry Runkel's farm, and put into a field of lodged clover with a rough uneven bottom, studded with stones, both fast and loose. The clover was lodged principally in one direction, and after a round or two it was at once evident that none of the machines could do satisfactory work in cutting it in any direction except in going against the inclination of the grass. In the second round Allen's machine was disabled by running foul against a fast rock, breaking out three or four guards; Ketchum's machine caught up a loose stone between the cutter and guard, and so powerful was the resistance that the team was brought up standing without injury to the machine. It is but just to state that the guards of Allen's knife bar, appear to be of soft cast iron, while those of Ketchum's, as all ought to be, are of wrought iron. The driver's seat on Allen's machine appears to be very safe, and all the gearing well guarded, so that no accident can happen without wanton carelessness. Ketchum's seat we consider dangerous; Manny's much less so. It is not in the nature of things for the driver to be on the lookout all the time, and a quick jolt in a dangerous seat, may place his life in jeopardy.

Maydole & Morse of Eaton, Madison Co., have patented an improvement on the Ketchum machine, consisting of a roller and combined lever, by operating which the whole weight of the frame and the cutter bar is thus carried from the ground and thrown upon the roller. This converts the machine into a two wheel carriage, and overcomes the friction of the knife bar on the ground. This we think a very desirable addition to the Ketchum machine, and recommend its use. Allen's machine we consider defective in arrangement for facilitating the elevation of the cutting bar from the ground. Manny's appears to be completely under the control of the driver. We have been thus particular in remarking on the good and bad points of each machine, and sincerely hope their inventors and proprietors will take our criticism in good humor.

A machine for spreading grass out of the swath, drawn by one horse, was on the ground, and afforded much merriment to the spectators, from its peculiar manner of throwing the grass up into the air. Although this machine is not a new invention, it is deserving the attention of farmers; it does the work well, and spreads the grass seven feet wide, as fast as a horse can walk. It can be used on any ground on which a mowing machine can do good work.

JOHN R. CHAPNAN, *Ch'n.*
JOHN BABCOCK,
JAS. H. DUNBAR,
LEWIS RAYNOR. } *Judges.*

Morrisville, July 2, 1856.

Pulverizing Soil in Drouth.

An interesting paper appeared lately in the Southern Cultivator, from a correspondent, on this subject, containing an account of several accurately conducted experiments, leading to different results from those generally entertained in relation to "stirring the earth." Whenever the weather was dry, stirring was invariably found to increase the evaporation of moisture, and to accelerate the effects of drouth. As there was no guess-work in these trials, but everything was carefully weighed or measured, they deserve the more consideration and attention.

As in all experiments of this sort, an accurate balance is essential, we copy the description of the one used in these experiments, as a guide in the construction of others where precision is required.:—

I procured a piece of well seasoned wood, 26 inches long, 2 inches wide and 1 inch thick. Through the middle of it, in the direction of its thickness, I bored a hole large enough to admit the point of a compass-saw. Introducing the saw, I made a slit transversely to the depth of about a half inch. Then, withdrawing it, I introduced it again with the edges reversed, and sawed as before. By this means I had an opening, into which I next drove the blade of a stout carving knife, deprived of its handle, and having a fine straight edge of steel. It was a blade of such thickness that there was no elasticity between the parts of it, on which it was to rest. At equal distances from this blade, towards the end of my beam, I attached appropriate hooks with perfect freedom of motion on fixed points. At right angles to a line passing through these points, I set up an index whose point was vertical to the knife-edge, when the beam was in place and horizontal. My knife-edge was next made to rest on two flat smooth steel surfaces made stationary in a horizontal position. And in a vertical direction, behind the beam when in its place, was secured a piece on which a vertical line was drawn from that point of the steel face on which one end of the knife-blade rested. This balance far exceeded my expectations. I could get no other of equal delicacy on which I could suspend so great a weight as I wished to operate with. When loaded with seven pounds on each end of the beam, it turned with one grain.

With this balance, the following experiments were performed:

Experiment 1st.—I suspended from each end of the beam tin buckets 7 inches deep, 5 inches in diameter, and counterpoised them. I then took them to the spot from which I meant to procure the earth. The earth was in just such a state of moisture as we consider favorable for sowing small seeds. I removed about 3 inches depth of earth, and then began to fill the vessels, which I did by taking it all from one hole, and putting it into the buckets—about a half trowelful alternately into each, until they were nearly filled. I subsequently reduced the quantity in each to 7 pounds. My comparisons were to be direct, *i. e.*, between the buckets (along with their contents) without the intervention of weights, which from this time, through all the experiments, were employed only to restore the equilibrium whenever disturbed. The buckets were, therefore, kept suspended on the beam. The whole was placed in a situation exposed to the sun and air and dews. At the time of counterpoising the portions of earth, I put into each bucket an iron stirrer. These were simply two large nails selected with reference to equality of weight. The stirrers were always left in the buckets, so as to guard against the removal of the smallest portion of earth. The buckets were left in one condition (neither being disturbed) for twenty-four hours. At the end of that time they were still in equilibrium. Being thus satisfied of the similarity of circumstances, I commenced stirring (plowing) the earth in *one* of them. The atmosphere was very humid; and the portions of earth (balance stand, &c.,) were frequently taken in, to avoid the rain falling into them. *While this moist condition of the atmosphere lasted, the stirred earth gained daily in weight.* But a change came on almost imperceptibly, *as the atmosphere became drier;* and, on the fourth day, the gain was lost again, and the equilibrium restored. I continued to *stir* the same portion until it was *a decided loser*, the sun being bright in the day and the dews heavy at night. There was one morning, after a very heavy dew, when the gain was so perceptible that I found by restoring the equilibrium, that it was five grains. And this was not equal to half the loss of the day before. Several times during all the experiments, there was no perceptible difference between the indications in the morning and those in the evening.

Experiment 2d.—I *stirred* the other bucket (now the heavier) leaving the first undisturbed. *It lost very rapidly. It became the lighter one in the course of the day.*

Conclusion from these experiments: When the atmosphere is in a certain state of humidity, the pulverized earth absorbs moisture. When the atmosphere reaches a certain state of dryness, the stirred earth gives off its moisture. I think my experiments, with their variations, do most clearly establish as a fact, that the atmosphere does reach such a state of dryness that the plowing of the ground may cause it to lose more moisture than it gains. And my observation of the weather during my experiments satisfies me that this state of the atmosphere is by no means unusual.

In order to obviate the objection, that the absorption of moisture from below by means of capillary attraction, was prevented by confining the earth in the tin vessels, holes three-fourths of an inch in diameter were made in each, and candle-wick of equal length and quantity inserted, passing down into water below. They remained in this situation 24 hours, and were found of equal weight. They were then stirred repeatedly for 48 hours, at the end of which time *the stirred earth was found to have lost* 178 *grains.*

The operation was then reversed on the two vessels, and in 48 hours, they had changed weight, the *earth last stirred requiring* 140 *grains to restore the equilibrium.*

These results will no doubt excite the surprise of many cultivators, who have long supposed from the results of their own practice that stirring is the best means of retainiug moisture in the soil. We cannot see, however, how the results could have been different. When the air is overcharged with moisture, and it condenses on powdered earth, it will obviously condense more rapidly by bringing up new portions in exposure to it. It is equally obvious that when the air is so dry as to abstract the moisture from the earth in contact with it, which is the case on every summer's day, stirring the earth successively exposes new portions to evaporation. Every one knows, that when any wet substance in grains, meal, or powder, is to be dried in the sun, the operation is carried on most rapidly when frequent stirring is given to it.

These experiments, although possessing great value for their precision and accuracy, are still defective. They give the truth, but not the whole truth. *Pulverization* is one thing, and *stirring up* that pulverized earth and *exposing it to evaporation*, is another. In the experiments, the earth appears to have been already pulverized sufficiently. And instead of performing the operation once a week or once a month, as in ordinary cultivation, it was done repeatedly in the space of 24 hours, which was needlessly often.

The attempt to show the effects of absorption *from below*, by means of capillary attraction, was wholly insufficient. The whole breadth of the bottom should have been in contact with moisture; a single coil of candlewick did not bring a hundredth part into contact. A most important object in making a soil deep and mellow, is to supply moisture *from below—the only soucce for it*, in the absence of dew and rain. This essential supply was entirely cut off, or very scantily furnished, in all these experiments. There should have been a wire-gauge bottom to each tin vessel, which should have been sunk into the soil, so as to get moisture freely from below. They could have been easily withdrawn for weighing.

A hard-pressed brick soon becomes dry in the sun; the same amount of clay reduced to a fine powder, will retain its moisture a long time. A soil which has been worked into mortar becomes hard and dry in few days of sunshine; one remaining mellow will hold water like a sponge and remain moist many times longer. If, therefore, the soil is made mellow by cultivation, it will tend to retain the moisture, instead of driving it off; while, if *already* mellow, the process might serve to dissipate the moisture.

The experiments were defective in not giving the *comparative* amount of evaporation from the two vessels. They merely furnish the loss by stirring. We should have been informed the amount evaporated from the unstirred earth. In the trials mentioned, the greatest loss was 178 grains (from 7 pounds of earth) in 48 hours. Admitting the moisture to constitute a third of the soil (a moderate allowance) there would be about 18,000 grains of water in each tin vessel, which would require for evaporation at the rate given two hundred days, provided none is returned by dew or rain or by absorption from below. This is a small quantity; and if stirred only once a week, instead of several times in 24 hours, would probably be many times smaller. We may therefore safely conclude that the loss to plants occasioned by the loss of water from stirring the soil, provided it is judiciously performed, is greatly overbalanced by the advantages resulting from keeping the soil in a mellow and finely pulverised state. Besides, the surface may be kept mellow by means of the harrow and cultivator, without turning up any considerable portion to the sun.

The following practical rules may be laid down, as applicable to all cases of this sort, and which we believe have been amply established by experience:—

1. All sandy soils, or those which are always mellow and which never crust in the least, are made drier by frequent stirring in summer; and the operation should be no oftener performed than may be necessary to keep the soil perfectly free from weeds.

2. All soils, containing more or less clay (and as a consequence liable to become hardened) should be worked often enough to keep up thorough pulverization, which will be less frequent for the under portions, and more frequent for the surface—the pulverized earth at the top preserving the moisture below, in the same way that a coating of sawdust or of tan is found to operate in mulching.

3. Any soil, *after* being brought to a state of complete pulverization, is made drier by being repeatedly turned up to the sun's rays; but as a crust forms on the surface after any shower or heavy dew, the oftener this crust is broken by stirring the surface the better. And it is decidedly better to plow deep and frequently, than to wholly omit cultivation and allow the surface to become hardened.

It may be proper to add, that in order to get the benefit of the absorption of the dew, earth should be freshly turned up at evening, when the surface will remain cool and condense the dew. If turned up during the heat of the day, the upper surface becomes warm and does not readily condense the moisture

He is idle who might be better employed.

ENTOMOLOGY.

No. X.—Borer in Apple Trees—The Buprestis.

In the fifth volume of the Country Gentleman, page 345, W. M. T. of Jessamine county, Ky., asks for information respecting a worm which has done great injury in his orchard of young apple trees, some of the trees being entirely killed by it. He has not been able to find this worm; but we gather from his account that it invariably commences its depredations upon the south side of the young tree, generally about a foot above the ground, and feeds upon the inner bark and outer wood, filling the cavity which it makes with its castings, and at the end of its burrow it penetrates inward into the solid wood, the only external indication of its destructive work being the dark color of the outer surface of the bark.

A letter from S. MOORE, Esq., of Kensington, Conn., states that a worm answering in all respects to the above account, is at present very troublesome in his and other orchards in his vicinity. He has repeatedly found the worm in its burrow under the bark. It is usually from a half to three-fourths of an inch in length. He and others are very desirous to know what insect this is, and what are its habits.

We wish Mr. M. had sent us specimens of this worm, and of the wood showing its operations. We feel much like the Israelites under their Egyptian task-masters—brick required of us, and no straw given us with which to make them. We have never seen an apple tree depredated upon in the manner above described. From what is stated of it, the insect would appear to be a species of the family BUPRESTIDÆ, or the brilliant snapping beetles, many of the larvæ of which mine a flat or shallow burrow in the sap-wood of the trees which they infest, immediately under the bark, which burrow is commonly winding or serpentine, and becomes more broad as the worm increases in size, and at its broadest end has a hole sunk into the solid wood, in which the insect lies during its pupa state. And it is most probable this insect is the Thick-legged Buprestis. Specimens of this beetle, from an orchard in Michigan, were sent to the office of the Country Gentleman last summer, for information as to its name, and I am indebted to Mr. BARRY of Rochester, for pieces of wood containing the larvæ. But my information respecting this insect, the dates when its transformations occur, &c., is by no means complete. I propose, however, to present such an account of it as will enable Mr. MOORE to ascertain whether this is the insect which is infesting his orchard. And if it is not, we hope he will not fail of forwarding us specimens of his insect, that will enable us to ascertain what it is. The perfect insect can probably be obtained by selecting a young tree which is fatally wounded by these worms, sawing it off above where the worms are nestling, and drawing a small bag or cap made of gauze, or of the netting used for musketo bars, over the stump, and tieing its mouth below where the worms are reposing. Or, without cutting the tree down, netting may be sewed in the form of a cylinder around the trunk, and its ends tied in such a manner that the insects will be imprisoned within it when they emerge from the wood. And all other worms which are found burrowing in the wood or bark of trees, the reader should know, may be obtained in their perfect state in this same way, except a few kinds which leave the wood and bury themselves in the ground to pass their pupa state.

Those insects which people commonly call snap-bugs, or snapping beetles, from their having the faculty of giving a sudden snap or spring, whereby many of them are able to throw themselves over when laid upon their

backs, form two extensive families of the order COLEOPTERA. One of these families, named Elaters, (ELATERIDÆ,) are nearly all of dull colors, black, liver brown or chestnut. The other, named Buprestians, are mostly of highly polished metallic colors, many of them being among the most splendid and brilliant of any insects known. It is to the latter family, as already intimated, that the insect which we are about to describe, belongs.

Next to the common apple tree borer (*saperda bivittata*,) the most common borer in the trunks of apple trees in our country, is the Thick-legged Buprestis, named *chrysobothris femorata*, by entomlogists, from its anterior thighs, which are remarkably thick and swollen as it were, and have a little angular projection or tooth on the middle of their under sides. Hitherto, it is in Ohio and other western states, that complaints of this insect have been made. But, as it is a common species in all parts of our country, it will probably be depredating upon orchards everywhere. It is a native insect of this country, existing here, there is no doubt, long before the apple tree was introduced. Its natural haunt is the white oak, and other species of oaks. And it is probably in consequence of the extensive clearing up of our native forests, that it has been forced to select other trees on which to deposit its eggs, for the purpose of continuing its species. And not only the apple but peach trees are attacked, and young trees are sometimes killed by it.

The perfect insect is a flatish oblong beetle, half an inch in length or somewhat less, with its head sunk deep into its thorax, the thorax being more broad than long and rounded at its sides. It is of a shining black color, and of a firm hard consistence, and on each of its wing-covers the naked eye can discern three raised lines, running lengthwise, the two outer lines being interrupted by two impressed spots, which appear as though they were stamped upon the surface by means of a seal. When the wing-covers are spread apart, the back beneath them is seen to be of a beautiful brilliant green color. The under side and legs are like burnished copper, the feet being deep green.

These beetles make their appearance upon the trees they infest, during the months of June and July, running in the hot sunshine up and down the trunk and branches upon their south side, and dropping their eggs in the crevices of the bark. The worms which hatch from these eggs, feed upon the soft sap-wood immediately under the bark, and probably upon the inner layers of the bark also, forming a shallow wide cavity between the bark and the wood. When they approach maturity they fill the cavity which they have formed, with their castings, and sink themselves deeper in the solid wood, forming not a round but a long narrow hole, and only deep enough for the worm to be contained within it. Many of the insects of this family pass two or three years in their larva state, and it may be the same with this species.

These worms or larvæ, in their form, bear some resemblance to a tadpole or to a battledoor, being quite broad anteriorly, and suddenly narrowed into a long gradually tapering tail consisting of several joints. They have no feet, and are very flat both on their upper and under side, appearing as though the bark had been pressed down and distorted them. They are pale yellowish, with two small black points jutting out in front, which are the jaws. A figure of this larva, and a more full description of the species than what is here presented, with some account of a parasitic worm which destroys it, will be found in my Report on Noxious Insects, published in the last volume of the Transactions of the N. Y. State Agricultural Society.

To enable us to devise the best modes for combatting this or any other insect, it is necessary that we have full information respecting its history and habits. But from the analogy furnished by similar insects with which we are acquainted, we may be able to suggest remedies to which resort can be had, until further investigations shall make known to us others which will be more convenient and effectual.

Wherever, by the discoloration of the bark or any other sign, one of these worms is found to be present, the bark should be cut away until the worm is reached, when it should be destroyed. The wound which is thus made in the bark, will by no means injure the tree so much as the worm will if it is allowed to remain. But it is probable that before the worms can be discovered by any external appearances, they will have done much injury, especially if several are present in the same tree. Hence it is most important that we should have some resort by which to wholly shield the tree from the attack of these insects. One mode of thus protecting it, will be to impregnate the bark with some substance which will not be injurious to the tree, and which will at the same time repel these insects from it. The parent has the instinct to discover whether her progeny can subsist where she places them, and probably will never deposit her eggs in situations where the young will perish. It appears to be well established that all alkaline substances are poisonous to the larvæ of insects, whilst they also promote the health and vigor of vegetation. By alkaline substances the reader will understand me as referring to different preparations of the "fixed alkalis," potash and soda, and not to the whole class of chemical substances to which the term alkali is extended. We thus have every reason to believe that these beetles will not deposit their eggs upon the bark of a tree which is impregnated with alkaline matter. One of the most convenient and economical substances with which thus to tincture the bark of trees, is the common soft soap, found in all our houses. It probably is not till towards the close of their lives in the month of July that these beetles deposit their eggs. Therefore if about the last of June the bark of apple and peach trees be rubbed with soap, or if this substance be placed in the forks of the larger limbs, from whence it will be washed downwards upon the bark by the rains, these insects I doubt not will discover it, and will forsake every tree which is thus treated. ASA FITCH. *Salem, N. Y., June 2d*, 1856.

Good and Bad Seed Corn.

There has been a very general complaint this spring that corn has failed in coming up; many fields have had to be planted the second and some the third time. This no doubt has been owing to two causes. First, the unusually wet and cold spring, and secondly, the seed not properly secured, has been generally bad. Last fall was very wet, and corn placed in large bins heated to such a degree as in many instances to destroy its vitality.

The *germ* of corn is very tender—particularly so—and but little fermentation is necessary to prevent it from coming up. A person in this neighborhood, who selected his seed last fall when he was husking, and braided the husks of the ears and hung them in his crib, had scarcely a single failure in a large field—indeed, he said that he had never known corn to come up more evenly before in his life—although he planted very early. The cause, no doubt, was owing mainly to his seed being properly secured last fall. The damage resulting from corn failing to come up, has been very great—which might no doubt have been in a great measure prevented, by adopting the above mentioned course. E W. HERENDEEN. *Macedon, N. Y.*

INDIA RUBBER BOOTS.—Last winter I bought a pair of India rubber boots, double soled, and lined with cotton throughout, to wear while doing chores in the snow and wet. I now find them very serviceable to go into the wet grass, especially mornings, and recommend them to all who wish to keep dry feet and save leather boots. They should not be worn in the house or in dry weather. S. B. B

Michigan Subsoil or Double Plow.

EDS CO. GENT.—In the Co. Gent. of June 12, I find an invitation for those who have tried the "Michigan or Double Plow," to send you their experience, to which I most cheerfully respond, with the impression that no opportunity should escape that will influence farmers to avail themselves of so valuable an implement. I have owned one since September 1852, and used it sufficiently to wear out many points and one land side, and have this day replaced the worn parts with new, and commenced turning a stony piece of land, that, from causes needless to mention here, has been down *too* long—consequently June grass has taken the place of the clover, and now stands 9 inches high in defiance of stock, and seemingly boasts of becoming lord supreme of the premises; but my Michigan plow, with 3 horses, is putting it in the bottom of a 9 inch furrow, perfectly covered, and a good quantity of loose dirt about it, that will only need the harrow and *gang plow* to make it the most desirable preparation for wheat. You "presume" Mr. S. thinks the Michigan plow best in New-Hampshire for "deep plowing." My experience is that it is best for *any* depth as low as 5 inches, which is the shallowest any man should plow, unless he would recklessly expose himself to an action for *false pretense*.

With me nothing is equal to it for plowing corn stubble, and other material that should be put out of the way in preparing land properly for a crop. At this depth, (5 in.) it can be so arranged as to put 3 inches of pulverized new earth on top of 2 inches of the surface, with its contents, whatever they may be, which are placed in the bottom of the previous furrow, by the forward plow, upon the same principle that a good gardener would do his work with his spade.

In the stony land I am now plowing, no coulter could be used on a single plow, which would leave a torn rough edge of the furrow at the surface, in a position to promote the *growth* of the June grass, making the work of after culture for its destruction enormous, if successful even at that; whereas the coulter point of the forward plow cuts it perfectly, and when one plow is obstructed by a stone, the other by its position in the ground is aiding me in holding the plow in its proper place, when a single plow would be thrown out.

Too much cannot be said or written upon the subject of plows and plowing, upon which rests successful agriculture; but I have already said more than I intended when I set down after reading a portion of the Co. Gent; and as my team have had their nooning, I must be following them.

I should like to see from you something upon the complex and vexatious fixtures for draft and gauging plows, that are not convenient for any other purpose than to tax the farmers to support the mechanic, when simplicity and utility should predominate. I would give that matter a rub, but I have followed the plow some 50 years, and I might subject myself to being called *old fogy* or egotistical, so I forbear. JOS. WATSON. *Clyde, N. Y.*

We thank Mr. WATSON for the above, and hope he will give us his views about the "vexatious fixtures," to which he alludes.

To Prevent Injury by Mice.

I observe complaints in late numbers of the Country Gentleman of a large amount of fruit trees being killed by mice working under the snow. I would suggest that trampling the snow hard around the tree, would be a sure preventive. A large snow bank saved a fine lot of young peach trees for one of my neighbors, while nearly every peach and plum tree in the country of any choice variety, were totally killed by the excessive freezing of the past winter. NORMAN PHILLIPS.

Remedy for the Borer.

MR. TUCKER—With your approval, the following prescription is most respectfully and with great pleasure dedicated, through your valuable paper, to the New-York State Agricultural Society.

Sure and total destruction to the Apple, Quince and Peach Borer; and at the same time a decided stimulant and safe fertilizer to the tree.

Make a concave mound of mellow earth around the tree, rising about six inches above the work of the insects. Thoroughly saturate this mound with a strong common salt brine, twice, at an interval of four weeks, at any time of the year when the ground is not frozen; stale beef or pork brine in its full strength, is just the thing. The mound of earth holds the liquid in suspension, round the tree, until by capillary attraction it is carried into the holes and burrows of the insect—where the salt is sure destruction to every grade of this ravaging and pestilent enemy. Vary the quantity of the dose with the size of the tree. Be cautious with small trees. Old, large trees, three feet round, may have a pailful at a time.

I have revived trees by this application from apparent death. Apple trees, 30 years old, with their trunks perforated very badly, are now perfectly healthy, and their wounds are healing over. Two Golden Sweetings, 8 years old, last June withered and showed signs of death. On examination I found the trunks full of borers, and more than half the surface eaten off. I made the application twice. Both trees revived, and made new wood the same season. This spring, I have treated every other tree with the application. These trees are in bloom, and the wounds made by the insect rapidly healing over. I would not now, without trial, recommend the application to any other than the apple, quince and peach. N. S. SMITH. *Buffalo, N. Y.*

Muck as Manure.

Can you inform me whether it would pay to draw muck from an old beaver meadow, one mile distant, if it could be had for nothing, or what would it do to pay per load? How should it be used, if drawn this summer or fall? It has been used for a mill pond six or eight years; the muck is from one to two feet deep, probably made from the decayed grass and fallen leaves together, with what has washed in. IMPROVEMENT. *North Hamdem, N. Y.*

The proper answer to this question must depend entirely on the amount of fertilizing matter in the muck, of which we have no means of judging. If the matter "washed in," contains large quantities of *animal matter*, the muck would be much better than if only the washings of common earth or soil. If there is little or no animal matter, it would not probably pay to draw it a mile. If, however, there is much decayed vegetable matter, it may be worth drawing for compost, provided it is first thrown out in heaps to drain and dry. Washed matter being usually free from stones, is better for placing in alternating layers with manure to form composts, than common soil or turf, containing more or less stone or gravel.

Experiment always affords the best data for decision; and our correspondent may try some of the muck as manure, along side of stable manure, and measure its results; and also use it in compost, in comparison with turf, and observe which works up the best. The first experiment will show the *richness* of the muck; and the latter its advantages in the way of *texture* for working over, and intermixing readily with manure.

Marketing Fruit.

There is no royal road to wealth. No business can be selected for general adoption, that will enable its occupant to acquire money rapidly, without a corresponding share of thought, experience or skill. The opinion is now common, and it is becoming more so, that setting out fruit trees will inevitably open a source of wealth to the owner, without any further especial attention. Planters will have to be undeceived on this point.

In the first place, a large share of observation, experience and judgment, must be exercised in selecting such varieties as will be valuable and popular, ten, twenty, or thirty years hence. Their value must depend on their vigor of growth, hardiness, freedom from disease, and productiveness, and on the smooth and fair appearance of the fruit, its intrinsic excellence, its time of ripening and keeping qualities, and not a little will depend on the reputation it may *then* have in market, to be judged of *now*. This is not so easy as some may at first imagine. It is true, that a thorough knowledge of all the best fruits, derived from actual experience with them—a knowledge not obtained in one day or one year—will enable the planter to select what are best for his purpose at *the present time*. But changes occur in the lapse of years. The Virgalieu (Doyenné) pear, for instance, so long at the head of all sorts for market in Western New-York, is already discarded by some on account of its liability to cracking. The *reputation* of a fruit has much to do with its sale, independently of its merits. As an example—a fruit dealer sent several barrels of this same pear to New-York, a part reached as Virgalieus (by which market name they were widely known,) and a part marked White Doyenné, (by which they were not known.) The former sold for nine dollars per barrel, the latter for only six, although gathered and assorted alike from the same tree. Now it requires a good deal of shrewdness to guess what excellent sorts, now mostly unknown, will have acquired a high and general name twenty years hence.

In the second place—a great deal of skill and careful management will be needed to conduct a well selected and newly planted orchard, safely and successfully through a series of years, into a good bearing condition. We have on other occasions had something to say on the best modes of insuring growth, and avoiding the various diseases and enemies which assail young trees, and which often greatly reduce the calculations of sanguine planters—and we shall not therefore enter more into detail here.

The third great point—and the one perhaps at present the most overlooked of all—is to secure a market for the crop after it has been raised. A good deal of excellent fruit has perished, all of which might have supplied the wants of the needy, in consequence of the headlong, unsystematic way in which it has been sent to market. Take, for example, the peach crop. A farmer has, perhaps, five hundred fine trees in bearing. He has never formed any plan for the sale of the crop, trusting that some dealer will come and ask for it, or intending to carry the fruit to market himself. The purchaser may or may not make his appearance. If he does not, no further arrangements are made till peaches generally are ripe. A general rush is then made from all quarters with them to the nearest town, the market is glutted, and they are sold for what they will bring. The report then spreads, as a matter of course, that there is no market for peaches, some are brought in, and many perish. In a few days they are again scarce and high priced, and if any peaches remain, perhaps another rush is made. In this way, the consumers are subjected to fluctuations in prices, and only procure them by snatches, not attempting to secure any thing like a regular supply. Thus, perhaps thousands of bushels are rotting under the trees, while purchasers are deprived of them. The right way is to keep the entire community, who do not raise them, constantly and regularly supplied at moderate prices; this would be better for all parties. To accomplish it, every fruit raiser should estimate weeks beforehand, the amount of his crop, and the various periods of its ripening. He should then make a contract with a city dealer for the whole, to be supplied at regular and stated intervals, or employ an agent for their regular and continued sale—with the understanding that they shall be at such moderate rates, that families can afford to go daily and obtain their regular supplies, without fear of being shaved. If those who plant peach orchards, would make a careful selection and distribution of sorts, so as to furnish a regular and uniform supply during the two or three months from the earliest to the latest, and would sell them at such prices as the community generally could afford to buy for daily use, probably ten times as many would be sold, at a greater average profit, and with a decided benefit to the health and purse of purchasers.

Another instance of bad management occurred in disposing of last year's crop of winter apples. It was nearly double the amount of average seasons; and prices ran low. Those who made early contracts with dealers, found little difficulty; but barrels could not be obtained for all, and many remained undisposed of. Many owners resolved to keep their apples till spring, with the hopes of higher prices. When spring came, and decay was commencing, a general rush was made with them to the cities; the market was quickly overcharged, and in New-York city, good winter apples, but slightly injured by decay, were offered at about the usual price of the empty barrels. The same management that we have proposed for the peach crop would have prevented such a loss. Fruit raisers must learn that there is an essential difference between selling wheat, which requires no management at all, except to get it to market, and selling perishable fruit, which requires a thorough knowledge of the business of picking, packing, transporting, and placing before purchasers. Those who are best informed on this branch of their business, are now in the practice of obtaining twice as much for their crops, as those who sell to any purchaser who happens to come along, and who take but little pains in doing the work of cultivating, picking and selecting in the best manner. They have acquired a reputation for the uniform excellence and condition of their crop, and fruit sellers are not afraid to purchase of them.

The question often occurs, What particular department of fruit raising is likely to promise the best and most certain remuneration? This can be answered only by the judgment and experience of the cultivator, in view of all the circumstances. For speedy returns, the peach and dwarf pear come first, as fair and remunerative crops may be had, with good treatment, five years from transplanting. High cultivation would impart a quality to both of these, so far above the common average, that the raiser would have a decided advantage in market, if he was always careful to maintain his reputation. *Good* peaches and pears will generally sell at some price; but the man who is *known* to have those only which are superior to all others, will be eagerly sought by purchasers. An orchardist in western New-York, from several hundred dwarf trees of the Angouleme pear, six years from the bud, obtained more than half a bushel as an average from each tree, and sold them all through a New-York agent, at thirteen dollars per barrel, or more than five dollars per bushel. They had received very skilful management, and were of the best quality. The trees being 8 feet apart, this afforded him a return of more

than three hundred bushels per acre, or fifteen hundred dollars, for a beginning.

The cultivator, however, who selects peaches and dwarf pears for operation, must be awake to his business. If he neglects his trees, and the best avenues to market, he may possibly make occasional profits, but he will more likely fail in all instances, through the many accidents, disasters, and diseases, that knowledge, skill and vigilance only can avert.

The cultivation of *winter apples* is the easiest and most uniformly certain, but the profits, as a necessary result, are smaller. The man who plants Rhode-Island Greenings, Baldwins, Swaars, and others of the best standard sorts, *takes good care of them*, and then gives them such continued cultivation, that their crops shall be superior to others, may be pretty sure of reaping a handsome return. The most productive varieties will afford as an average, according to the repeated experience of good cultivators, about one hundred dollars per acre, yearly. We might give many instances; we make a single quotation from the Report from Ontario County, to the Fruit-Grower's Society of Western New-York:—

Stephen Hendee, of West Bloomfield, sold (besides what he put up for his own use) $125 worth of apples from one acre of orcharding, in the fall of 1854.

Samuel D. Millington, of the same place, sold his crop of apples, in the fall of 1854, from three acres, for $330. Nine Northern Spy trees, eight years from grafts, produced forty-five barrels of superb apples. His crop this year, (1855,) amounted to seven hundred barrels, worth $524. His Northern Spy trees bore full again this year; crop, one hundred barrels; he says they bear every year full crops of large apples, well matured. He mulches his trees with straw and straw manure. He grows no crop among his trees; prunes thoroughly, and gives his Spy trees an open head.

Mr. Hendee manures with long manure, and grows crops of grain and grass among his trees; average crop, $75 per year.

If it be objected that these products are more than an average, we can answer that they are so, simply because the orchards received better treatment than common; ordinary management consisting simply in total neglect.

We have already given a single instance of the profits of *dwarf pears*. A large number of examples might be added of the large returns from *standard* pear trees. The following statement is copied from the Report already alluded to:—

Mrs. George, of Victor, sold $24 worth of White Doyenne Pears from one tree eighteen years old, on the tree; the buyer picked them.

Marshall Phinley, of Canandaigua, has three White Doyenne Pear trees, one quite small; sells the pears on the tree for from $50 to $60, yearly; has been offered $100 per tree for the trees; they are constant bearers.

There is a tree of this variety on Judge Howell's homestead, about seventy years old, which has not failed of a good crop for forty years, and has averaged about twenty bushels a year for the last twenty years, which have been sold on the tree at the average of $3 per bushel, or $60 a year. This tree has been worth, or produced about $3,750 worth of Pears, in the New-York market.

Judge Taylor has three large trees of this splendid pear, of about the same age; yield in 1854, eleven barrels; sold for $137.

T. Chapin has a young orchard of this variety, of about 400 trees, some eight years from planting; he sold thirty barrels in New-York in the fall of 1853, for $15 a barrel—$450. In 1854, his crop amounted to fifty barrels, which he sold in New-York for from $18 to $22 a barrel; average, $20, equal to $1000.

This year he lost a portion of his crop by the pears dropping, caused by planting corn in his orchard close to his trees, and which was a very heavy crop. All the White Doyenne trees about Canandaigua produce in about the same proportion.

Soil deep, dark clay vegetable mould, sub-soil clay; trees sound and healthy.

Now, it may not be safe to say that such profits as these are to be expected in all instances; yet as these were not accompanied with any unusual care or skill, it may not be unreasonable to expect results not much inferior, provided all the increased experience and skill of the present time is brought to bear upon the business. If $25 a year is an average product of a single pear tree, (of which we could furnish a multitude of cases, besides the preceding,) one hundred trees to the acre would furnish an annual yield of $2500. The *demand* for fruit is at present increasing more rapidly than bearing trees; prices of the best pears have at least doubled within a few years; the finest *winter* varieties now sell readily in the large cities at one to three dollars per dozen; and the result of their sale and consequent introduction to notice, is to make them better known and more sought after.

The present appearances are, that it will yet be a long time before the market will be overstocked with them, and that prices will rather advance than recede. But those who would make their cultivation profitable must not expect that planting out trees simply, will answer the purpose—skill, knowledge and attention, must be brought into requisition. But while neglect will certainly end in failure, there is probably no business where well-directed intelligence promises more certain and more ample profits than the extensive culture of the finest fruits for market.

Soil Analysis:

OR THE RELATIONS BETWEEN THE COMPOSITION OF PLANTS AND THE SOIL IN WHICH THEY GROW

It is now pretty generally suspected by working farmers, and universally acknowledged by the highest authorities in scientific agriculture, that the practical value of analyses of the soil have been altogether over-estimated. We have given to our readers the testimony of several of our own scientific men upon this subject, as helps to a more correct state of public opinion in regard to it; and we have now the opportunity of confirming that testimony by that of a British chemist, the author of a series of papers on the Chemistry of Agriculture, in the North British Agriculturist, in a recent issue of which paper we find the following language:—

"To analyse a soil, and determine from the results the degree of its fertility and its adaptation to particular crops, was one of the first problems placed before the agricultural chemist, and from its solution the greatest advantages to agriculture were anticipated. *As yet these expectations have not been realized*, nor can this be considered as a matter of surprise. The progress of our knowledge, in place of simplifying, has complicated the question, and has shown that the fertility and infertility of a soil is dependent upon a *variety* of circumstances, of which its chemical composition is *only one*. Instances exist in which the barrenness of a soil can be distinctly traced to the deficiency of some one or other of the necessary elements of plant-life; but in other cases, a barren and a fertile soil may present an almost perfect similarity in composition, and contain all the elements required by plants in proportions known to be amply sufficient for their healthy growth. The difficulty of explaining these facts has been increased, just in proportion as soil-analyses have become more minute, for their tendency has been to show that the instances, in which infertility is due to the *absence* of any of the essential constituents of the plants, are comparatively *rare*, and that quantities which we are apt to overlook as totally

unimportant, may be amply sufficient for all that is required. One-tenth of a per cent. of potash, soda, or phosphoric acid, may appear a quantity so small that the chemist might be justified in neglecting it, and yet a soil containing these quantities is capable of affording an *abundant supply* of these elements to *many generations of plants;* and notwithstanding this, there are soils containing a much larger quantity of these substances, which if not absolutely barren, are only capable of supporting a very scanty vegetation. These facts have rendered it obvious that it is not merely the presence, but the accessibility, so to speak, of the constituents of a soil that must be determined; and when the chemist, in addition to the exact proportions of these minute quantities, is required to ascertain the various forms of combination in which they exist, it is natural that he should show little disposition to enter upon a branch of investigation of such complexity, and which in the present state of our knowledge is likely to give only negative results.

"The difficulties of this investigation have been so fully recognized by LIEBIG, that he has pronounced it *impossible* to arrive at a satisfactory knowledge of the composition of the soil, and its suitableness for particular crops, by analysis alone."

As a preferable means of determining the prominent characteristics of a soil, Liebig has suggested the examination of the ash of the plants which naturally grow upon it. Plants, so far as their mineral constituents are concerned, may be divided into three principal classes, viz.: potash, lime and silica plants, characterized by the abundance of these particular elements in their ash; and the basis of Liebig's suggestion seems to be this: that, if any soil is found naturally to maintain a growth of plants of any one of these classes, it may be considered as capable of affording abundance of its characteristic ingredient, and consequently as well adapted for the support of all similar plants.

That there is some ingenuity and plausibility in this suggestion, may not be denied. The first settlers of our Western States acted upon a somewhat similar theory in the selection of their lands, taking it for granted that in the vegetation which they found upon the soil, nature had afforded a means of determining its fertility and some of its special adaptations. But that it cannot be relied on as a certain means of determining the main chemical constituents of a soil is evident from this,—that there are plants which grow upon a soil, not because it contains *abundance* of those elements which it requires, but for the very opposite reason. Thus some plants which require much lime, or are lime plants, will not grow or thrive upon calcareous soils, because their special power of absorbing lime or their avidity for it, causes them to take up more of it than their healthy existence requires, or enough of it to be poisonous and fatal.

The conclusion of the whole matter seems to be this —that *chemical science* cannot, for the present at least, afford to practical tillers of the soil any assistance of much value, either by analysis of soils, or by the recommendation of special manures based upon such analysis. Happily past experience and new experiments are capable of doing them much more service in enabling them to determine the specific requirements of crops, or those fertilizers which act most beneficially on particular crops. In this way the value and special utility of plaster for clover, bone-dust and superphosphate of lime for turnips, ammoniacal substances for wheat, &c., have been determined. And by such experiments as our State Ag. Society is encouraging by the offering of premiums, we may hope for more light upon a subject which chemistry seems at present unable to illuminate.

At a time when so much is said about soil analysis, defects of soils, mineral manures, &c., we are apt to forget that the grand sources of the food of plants, from which they derive their chief nutriment and support, are decayed vegetable and mineral matters. Our main study should be to obtain as largely as possible, carbonaceous matters from swamps, decayed straw, &c., and to mix these with our animal manures. These are the principal requirements of all soils; and for particular crops *experience* has as yet done *more* than *science*, in determining the best special applications.

Cheap Ice Houses.

MESSRS. EDITORS—Will you inform me through the Co. Gent., of the most approved manner and material of building ice houses, and also the smallest dimensions (or no. of loads) that it can be kept in through the summer for a small family? E. H. BEDFORD. *Glenham, May 17th.*

The cheapest small ice house is either one within another building, or else dug into the ground, provided a gravelly hill-side can be found for the latter. If made of rough boards, one may also be constructed at moderate cost, wholly above ground.

If room can be had within some out-building, all that is necessary is to make double board partitions for surrounding the ice, with the space filled with shavings, tan, or saw-dust. If shavings or tan are used, the space should be one foot in thickness; eight inches will do for saw-dust. The bottom should also consist of a similar thickness of the same material, covered with boards. These bottom boards, if laid loosely down, will admit of necessary drainage between them; if tight, holes should be bored through them for this purpose. It is essential to successful keeping, that all the water running down from the melting ice, should have a ready drainage; at the same time care is needed that the air be not admitted from below. There should be a covering at the top, similar to that at the sides, so that the ice may be perfectly enclosed from exterior warmth. If the building is a separate one, the space just below the roof must be sufficiently ventilated to allow the escape of damp or heated air next to the sun's rays.

An underground ice house, or one above ground requires essentially the same construction, the leading requisites for success being, 1. A non-conducting substance (as shavings, chopped straw, or saw-dust) of about a foot in thickness on every side of of the space where the ice is deposited. 2. Ready drainage. 3. Exclusion of air from entering below, its tendency to rise, if warm, being great. 4. Ventilation of the *garret* or space next the roof.

Shavings are by many preferred to saw-dust, as the latter is apt to become wet through the sides, ferment and heat, and decay.

In filling, the colder the ice the better, and the square blocks as they are closely laid up, should have all their interstices filled with saw-dust, and a space left of a few inches around most the sides, similarly filled. The top should be covered with a foot or more of saw-dust. In taking out the ice, the place must be entered *from the top*, as the warm air admitted, does not descend; while an entrance below would freely admit warm, ascending air. If made within another building, there is no difficulty in having an opening at the top for withdrawing the ice; a door may be made at the side to be used afterwards as the deposites are lowered. If in a separate building, the entrance can be at the side only, in which case two doors are most

convenient, one above the other. These doors should be double, with a space of confined air, which space should be filled with straw or shavings, except when the doors are in daily use.

Seven or eight feet square is the smallest size that should be adopted, when a good supply through summer is desired. A strict attention to all the leading requisites for success, in construction and management, will secure better preserv tion with a space eight feet square, than one twice this size and badly managed.

A very cheap mode of keeping ice, is to make a strong plank box, eight or ten feet square, placed within a building, or in a shaded place, cover the bottom a foot with saw-dust, and then build up the ice in a solid mass, leaving a space all around of a foot between the ice and box. Then fill this with saw-dust, and cover with a foot of the same, leaving the top for entrance. By this arrangement, a single wall only is needed.

The Game Fowl.

The Game Cock has long been held in high estimation for its neat and elegant form, its brilliant and beautiful plumage, "its graceful and majestic carriage, and its bold, proud, courageous bearing." Some writers esteem it an intermediate link between the wild fowls of the East and the ordinary barn-yard fowl. The bird seems to occupy such a place in size, and somewhat in form, but far excels both in courage, spirit and endurance.

Cock-fighting was fashionable in Greece five hundred years before the christian era; and from that time to the present the game fowl has received much care and attention from the "fancy."

Most of the ancestors of our game birds came from Great Britain, while a few have been brought from France, Spain, Germany, Mexico, and the East Indies.

If fowls were bred only for beauty of form, bright and gaudy colors, undaunted courage, or the power of great endurance, the fancier or the amateur might well be satisfied with almost any of the game family; and this family is a very numerous one. But as many of these distinctions depend almost entirely upon color, the description of one will answer for nearly all.

The English Poultry Book sums up the characteristics of the game fowl as follows: "The head of the cock should be thin and long, like that of a greyhound; face bright red; beak massy at the root, strong and curved; eyes large and sparkling; neck long and full; breast broad and well developed; back short, and flat between the shoulders; body tapering towards the tail; wings inclined to expand and cover the thighs, somewhat after the manner of a bantam; thighs short and muscular; shank or beam of the leg powerful, and long in proportion to the thigh; legs well forward, with a clean flat foot and strong claws. When placed on his breast on the palm of the hand he should be evenly balanced. In condition he should exhibit closeness and hardness of feather, while his carriage is erect, evincing boldness and self-confidence." Baily adds, "His comb is single, bright red and upright." "The spur should be low on the leg."

The hen should possess the same points as the cock, allowing for difference of sex. The figure should be neat and her motions quick, showing great activity.

Some English authors enumerate over thirty sub-varieties of the game fowl. The principal strains bred in this country are the following: Black-Breasted Reds, Brown-Breasted Reds or Gingers, Duckwings, Blacks, Piles, Blues or Greys, Hen-cocks or Hennies, Whites, and Sumatras.

The name *black breasted reds* indicates the color of the cock of this sub-variety. They are again divided

THE GAME COCK—[*This engraving is copied from Martin's work, but can hardly be considered a good representation of a well-bred game cock.*]

into five strains or clans—as those with *white legs*, which distinguishes the Earl Derby breed; a second with *yellow legs;* a third with *olive legs;* a fourth with *blue legs;* and a fifth with *dark legs.*

The true Derby cock is more highly prized in England than any other game fowl. This bird has a bright red face; orange red hackle and saddle; dark brown-red back; intense black breast and thighs; smaller wing-coverts and point of wing maroon; greater wing-coverts tipped with steel-blue, making a bar across the wing; wing quills bay, with the exception of one or two of the outer which are tipped with white; tail full, carried high, and iridescent-black. "*Beak, legs, and feet white.*"

The hen has the upper mandible dusky at the base; comb, face, and small wattle deep red; around the eye and the throat chestnut-brown, stem of hackle-feathers light buff, while the webb is a dull brown, laced with black, "breast shaded with roan and fawn color;" belly and thighs ash color; back and wing-coverts a thrush color; wing quills and expanded vertical tail, black; while the legs, feet, and nails are white. Weight of cock about five and a half pounds; of hen one pound less.

The other black-breasted reds differ from the Derby only in the colors of their eyes, beaks, legs, and feet. Each strain of birds has its beak, legs, and feet of the same color.

In this country we have a loose custom of calling all black-breasted red birds Derby fowls, but none but the white-legged is entitled to this name, any more than a yellow shanked dunghill can be called a Dorking. Some persons prefer the yellow or the olive legged to the white, and they are undoubtedly just as good birds in every respect, and to our taste quite as handsome.

The *brown-breasted reds* or *gingers.* All of these have brown breasts, except a few that are streaked, while all have red hackles and back, and black tail. Some are bearded, called "muffs," while a few have light crests on the back part of the head, and are termed "tasselled." "The hens are a dark brown or a rusty black, with a little yellow on the hackle, back, and wing-coverts.

The *duckwings* are distinguished by a greenish purple band across the wings, similar to the brown duck. They are greatly admired. They are of almost every shade of color.

But few *English blacks* are bred in the United States. A majority of them have a yellow or buff colored bar on the wing-coverts, and are frequently called *brassy-winged blacks*

The *piles* have white as one of their component colors, as red and white, yellow and white, black and white, or a mixture of two or more colors with white. A few are *hen-tailed*.

"The *blues* and *grays* have a dull slate breast, with straw-colored hackle and saddle-feathers." The hens should be wholly blue.

The *hen-cocks* or *hennies* are brown or speckled, and are readily distinguished by the absence of sickle feathers in the tail, being "hen-tailed." They are also almost destitute of neck and rump hackles, which gives them a gaunt figure. Most of the ancestors of our henny game fowls came from Mexico, and are named after that country. The Mexican strain are usually denominated pheasant colored, with an occasional change in plumage from a light yellow to a dark brown.

White game fowls are difficult to breed, as they are apt to throw colored feathers, of red, buff, or black, which changes them to piles.

The games called *Sumatra* have been quite recently introduced into this country from the East Indies. It is possible that the Poultry Book includes this bird under the name of "Indian," but we think not. Many of these birds are entirely black, though some have red hackles, and a few are specked with white. Some writers, apparently anxious to multiply varieties, have proposed, with doubtful propriety, to divide these birds into classes according to a real or fancied difference in color and form, as the *Sumatra game*, the *Sumatra Ebon*, and the *Sumatra Pheasant*. The cock has a small pea comb; small wattles; a very full neck-hackle; full, flowing, and almost horizontal tail, with rather long dark colored shanks.

Our climate, in the latitude of Albany, is most too severe for these birds; they are also rather difficult to raise; and after all are only game "with the natural heel," at least they have often failed when pitted with a bird with gaffs. To those who breed only for fancy it matters little whether the bird is "game" or not, so long as his form is well-proportioned and his carriage easy and graceful, qualities which this bird possesses in a fair degree, though in these respects we consider the Black-breasted Reds his superiors.

Game hens of all the different varieties are only fair as layers, while they are close sitters, and the most vigilant and watchful as mothers.

None of the games will bear confinement in a small yard as well as the Black Spanish, or the Shanghae; the most of them are hardy and easily raised; and all of them have fine-grained, tender and very savory flesh, making them superior to all other fowls for table use, the true English Pheasant alone excepted.

Sweet German Turnip.

My communication in Co. Gent., p. 333, respecting this incomparable late keeping turnip, has brought me numerous and unexpected applications for the seed, with inquiries as to my method of cultivation, price of seed, &c. I will answer them by saying that my supply of seed is so near exhausted, that I can spare no more at present; but as I have a large quantity of the turnips "set out," I shall be able to furnish seed as soon as the present crop ripens. To those who have inquired the price, I would say, that for $1, I will send a pound of it by express or any other conveyance requested, or an ounce by mail, post paid, for 6 postage stamps, or 18 cts.

Several correspondents have inquired my method of cultivating for a field crop. Last year I raised the best I have ever seen, and of course would recommend others to cultivate in the same manner, which was as follows: I selected a piece of land that was planted with potatoes the year before, and highly manured with barnyard manure—soil a gravelly loam—plowed about the 1st of June, and sowed in drills, far enough apart for the cultivator to pass between them; at the second hoeing thinned to 14 inches. I used no fertilizer, excepting a light top-dressing of plaster when they first came up. About the 1st of Nov. I harvested as beautiful a lot turnips as I ever saw. I have specimens of them now (June 6th) that are, as sound and fresh as when harvested. By actual measurement, they yielded at the rate of 900 bushels per acre. I would advise not to thin them until the plants have attained a considerable size, else the cut worm may "leave but a remnant behind." Those who received the seed will confer a favor by "reporting" their success in raising them, as I am not yet decided as to the best time of sowing, but think they do best if sown from the 1st to the 15th of June. EDWARD L. COY. *West Hebron, Wash Co., N. Y*

Culture of Colza and Rape.

MESSRS. TUCKER & SON—Seeing an article in the Country Gentleman of May 8th, referring to Colza and Rape culture, and having had some experience myself in the cultivation of this plant, both in Prussia (my native country) and in America, I send you a few lines of my experience on the subject.

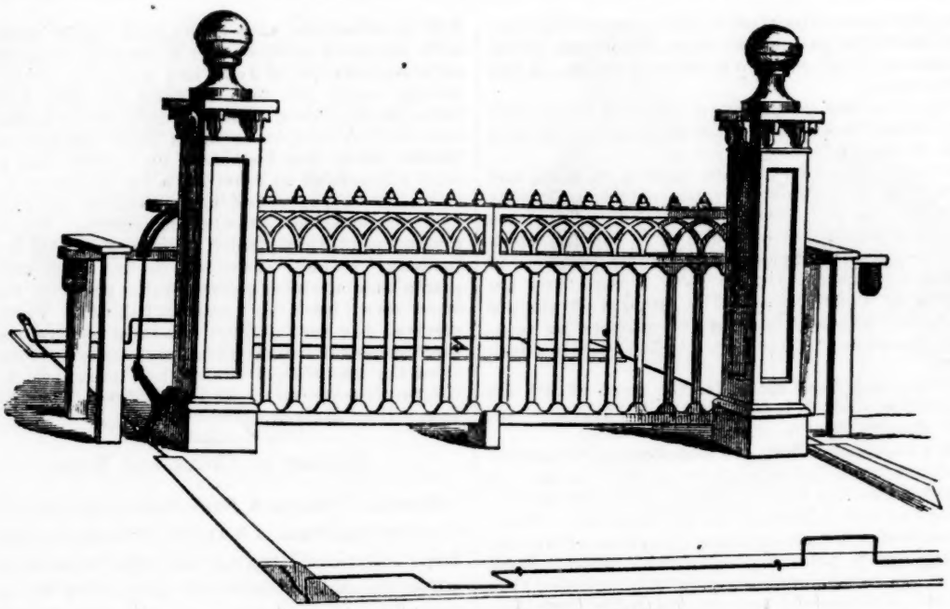
Wishing to see if this plant could be successfully cultivated in this country, I sent to Europe, and obtained some seed of the kind most in use there. This was four years ago. Since that time I have raised a few bushels of seed each year, and believe it can be cultivated in this country with as much success as in any other. The soil should be prepared about the same as for wheat; the seed sown the latter part of August, and the yield is about the same number of bushels per acre as wheat. It stands the winter well, and is no more injurious to the soil than any other crop of winter grain.

I have had oil made from the seed twice. At one time I got three gallons of oil to the bushel of seed; at another time two and a half gallons. When I got the three gallons there was a workman in the mill who was acquainted with rape oil manufacturing in Europe. When I got the two and a half gallons, there was none in the mill who knew any thing about its manufacture. This I believed to be the reason why I did not get the same quantity of oil per bushel at the two different makings.

It is unnecessary for me to speak of the superior qualities of this oil, as you have spoken of it in your paper. I readily got one dollar and twenty-five cents per gal. for all I had to sell. It is my intention to build a mill to manufacture this oil, so soon as there is a prospect of my getting a sufficient quantity of seed to warrant me in so doing, as I am fully convinced that it will be a profitable investment both for myself and those who should raise the seed. I received several different kinds of the colza seed from the Patent Office last year. I have planted them in such a way as to test the merits of each particular kind, and will report the result to the Patent Office.

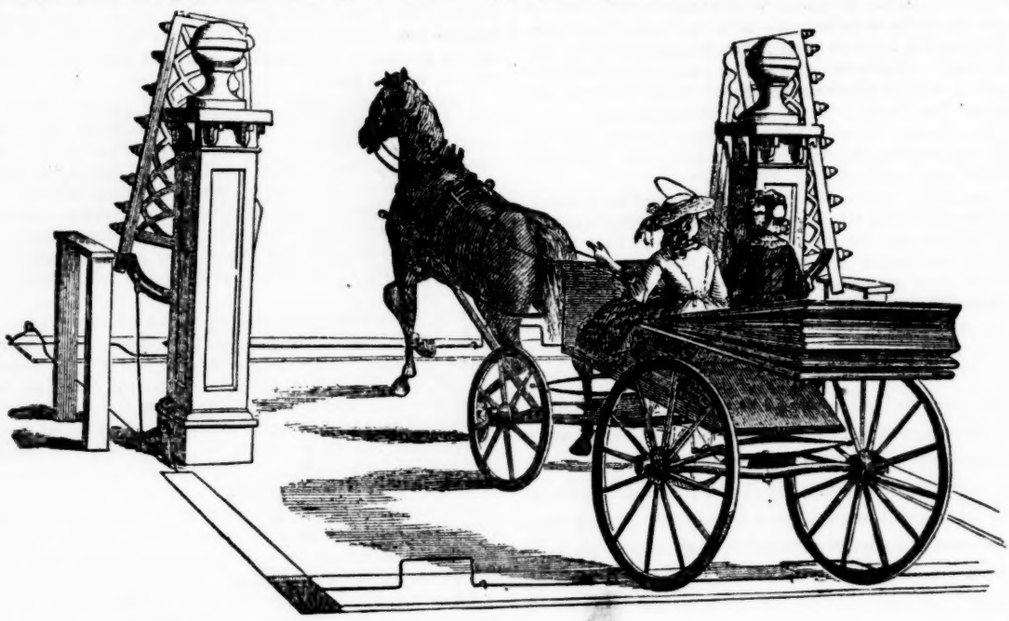
From present appearances there is one kind which will yield much more than any of the others. If there should be any person who would wish further particulars on this subject, I would be pleased to inform them, or if they should wish seed I could supply them CHRISTIAN MEYERS. *Near Bridgton, Cumberland Co., N. J.*

THE CURCULIO.—A reward of $500 was offered by the Kentucky Horticultural Society at its meeting in Louisville, last week, to the discoverer of a certain and effectual remedy against the *curculio*. Said remedy not to be so costly or troublesome as to prevent general application.



Woodruff's New Self-Acting Gate.

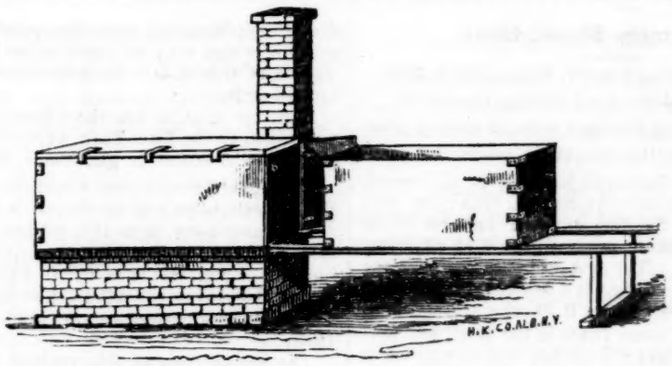
Mr. Woodruff sometime since obtained a patent for an improvement in farm and ornamental gates, and a full-sized working gate was on exhibition at the late fair of the American Institute, at the Crystal palace, New-York. Those who witnessed the operation of that gate expressed themselves highly pleased with its operation; but experience has demonstrated that self-acting swing-gates are objectionable, from their liability to damage by heavy gusts of wind and gales. To remedy this and other defects Mr. W. has invented the gate represented by the annexed engravings, and has made an application for a patent through FOWLER AND WELLS' Patent Agency, of 308 Broadway, New-York city. This gate does not swing horizontally, but is composed of two separate parts, one being attached to each post by two hinges operating vertically.



The gate is so jointed as to close up something after the manner of a lady's fan, yet in a very firm and substantial manner. As each half of the gate is but four or five feet long, it can easily be made strong and durable. This gate is balanced upon its hinges by counter weights beyond the posts, and is operated by the wheels of the carriage or runners of a sleigh, which moves the rod over which it passes. This rod operates the side-bars or chains, which are attached to the cranks outside the posts, and which move the gate as desired, opening it on approach and closing it on leaving.

We are informed that the inventor is prepared to deliver the gate represented in the engravings, boxed for shipment, with directions for putting it up, so plain that any ordinary mechanic can understand them—without the main posts, which can be constructed to suit the taste of the applicant—for $35, which is less than it could be manufactured without the labor-saving appliances possessed by him

Any orders may be addressed to FOWLER AND WELLS, or to the inventor, at Elizabeth City, N. J



Steam Boilers.

A Minesota correspondent inquires, "What is the best kind of steamer for steaming food for cattle, and where is it to be had—or is there any simple and efficient method to answer the purpose, at a small expense, and which I could *get up* here, without incurring the great expense of carriage from the East?"

The best *boiler* of the kind sold here, that we are acquainted with, is Mott's Agricultural Furnace, which is simply a large kettle, surrounded by a cast iron case, so as to leave a space of only an inch or two between the case and boiler, through which the flame passes, and is thus spread out into a broad sheet, in contact with every part of the boiler. A small stove is cast as a part of the whole, immediately beneath, and a very small quantity of fuel is sufficient to heat and boil a large volume of water. To convert this into a steaming apparatus, place a barrel or tub upon this boiler, a little less in diameter than the boiler, so as to set *within* it about an inch or so, and having holes bored through the bottom to allow the steam to pass up into it. The small gutter round the bottom formed by setting this barrel within the boiler, is filled with the meal used as food, and is thus rendered nearly steam-tight. The cover may be a tightly-fitting lid; or, if roots are steamed, a layer of meal on the top will keep in the steam.

A cheap and good boiler may be made of two inch plank, made into a box, halved together at the corners, and secured by nailing on sheet-iron braces. This box should be of such a size that a single sheet of large sheet-iron may form the bottom, by projecting two inches on each side, so as to be bent up and nailed against the sides of the box. This is set on brick-work, forming a place for the fire beneath; the fire striking against the sheet-iron only, and the flue far enough off to secure the wooden part of the box from burning. A board, fitting the inside of the box horizontally, has cleats nailed across the under side, so as to keep it about three inches above the sheet-iron bottom; and these cleats are hollowed up in the middle, so as to rest only on their ends. The board has several holes bored through for the passage of the steam. About three inches of water are poured into the box, the roots or other substance are then placed upon the board, till filled; the tight lid is buttoned down, and heat applied beneath till the steaming is completed. A box of greater length may be used, the sheet-iron covering only a part of the bottom, provided sufficient care is taken to make it tight where joining the wooden portions of the bottom, the iron part only, as a matter of course, being over fire-place. Or, two sheets of iron may be joined together by lapping like the joints of stove-pipe, and the box thus made double the capacity. The fire-place will economize the fuel in the best manner, if built so that a *thin sheet* of flame will pass beneath the whole bottom, like that in Mott's furnace.

A steamer was described many years ago in one of the earlier volumes of the Cultivator, which possesses several important advantages on account of the ease with which its contents are transferred from one place to another. It is represented in the above figure, where the box on the left is the boiler set on the brick fire-place as already described, but with the flue placed at *one side*, so that a door may open at the end. The right hand box is placed on small wheels or rollers, which run on horizontal rails, running into the boiler, where it is enclosed by the tight door. This box (with holes bored in its bottom,) is run along the rails under the bin of roots, and is quickly filled through a trap door. It is then run into the boiler, the door closed, and heat applied. The three inches of water is quickly made to boil, and the steaming process goes on rapidly. When completed, the box with its cooked contents, is run out (by hooking into a ring) on the rails, and an iron pin withdrawn which opens its bottom downwards, and discharges its contents into another box placed beneath, and standing beside the feeding trough. If the rails are of some length, several such boxes may be filled successively, and allowed to cool. No safety-valve is required, as a sufficient quantity of waste steam will escape at the door, even if *list* is applied round its edges to make it tight. If necessary, a stop-cock or two may be inserted into the lower part of the boiler, to show the amount of water, as in the common boilers of a steam engine. The door is set about four inches higher than the bottom of the boiler, to allow space for water.

We cannot state from experience the value of this apparatus, but if there is no drawback, it must save a great amount of labor in handling roots and other food for cattle, which, being daily performed, constitutes a large item in a year.

Picking off Potato Blossoms.—The last number of the Country Gentleman contains an account of the increase of the potato crop, caused by picking off the blossom. This may be so in theory, but in practice, in an experiment performed under my observation, the difference was so small as to be inappreciable. Possibly in the instance mentioned by Liebig, other causes might have operated in producing the result. A single experiment proves almost nothing—it may be easily repeated. T.

The Cashmere Shawl Goat.

GALLATIN, SUMNER COUNTY, Tenn., June 5, 1856.

To the Editors of the Cultivator and Country Gentleman:

I have been thinking for some time of calling your attention, and that of the numerous readers of your widely circulated agricultural journals, to the recent importations of the CASHMERE SHAWL GOAT, an animal as remarkable for the extreme fineness of its fleece, as for the enormous prices which it at all times commands in market. The first and only importations to the United States, were made a few years since, from Turkey in Asia, by Dr. JAMES B. DAVIS, of Columbia, S. C, who resided for some years in the East, and procured them under great difficulties, and at much cost and personal hazard. They have been recently introduced into Tennessee by Messrs. WILLIAMSON, ADAMS & Co., an enterprising firm of public-spirited gentlemen, at Gallatin, Tenn., and are now on my farm near this place. The Company have a charter of incorporation granted by the last Legislature of the State, which is doing all in its power for the encouragement of the farming interests, having in successful operation societies under the direct charge of a State Bureau, in the three grand divisions of the State, in connection with county societies in most of the large and populous counties. The fact is Tennessee, so long behind-hand, in that public countenance to these interests, is now far ahead of most of the older States in the encouragement and fostering of associations for the advancement of agricultural and mechanical arts.

Most of your readers are doubtless familiar with the history of the Cashmere Goat, and it is scarcely necessary to speak of the great intrinsic value of the wool over that of any other fleeced animal known. The almost fabulous prices at which the shawls have sold is known to almost every one, often approaching thousands of dollars each. One of the chief causes of its high value is the unperishable nature of the goods manufactured from the Cashmere wool—surpassing in durability of wear all other articles. The adaptation of the animal to our climate has now been fully tested, while its hardy and lively nature, its habits and *self-protection* from dogs and other enemies, are qualities which highly recommend them. They can be raised advantageously, and thrive upon weeds, and briars, &c, which are rejected by other animals. Not the least remarkable is the manner of gathering the fleece, which is *pulled* instead of being sheared. I have recently weighed the fleece from one, and it turned out *three pounds, ten ounces* (3 lbs., 10 ozs.) semi-annually. The entire yield of the company's stock has been engaged in the city of New-York at $8.50 per lb., from which point it will be sent to Paisley in Scotland, for manufacturing into the shawls. I beg leave to enclose a sample of my raising.

It may not be out of place in this connection to remark that great credit is due to Dr. DAVIS, of S. C., for the enterprise he exhibited in the introduction of the Goat to this country. He was at the time in the employ of the Turkish Government at a salary of $15,000, engaged in experiments upon the growing of cotton in the Sultan's dominions. He went out upon the recommendation of President Polk, to whom application was made by the Turkish Government, for the services of some competent Southern gentleman, familiar with the cotton culture. While there he determined to procure the Goat from its native wilds. The story of the journey would be too tedious for my brief letter, and I will merely add that with an expensive outfit at Constantinople, a perilous journey of months, and the loss of many men and camels, he succeeded in capturing and carrying off eleven of the famous animals whose fleeces in the shape of shawls are so highly prized and coveted by the ladies of all civilized nations, and for which prices almost startling have been paid by the wealthy. On his return home Dr. Davis visited London, and exhibited his flock at the British Museum, attracting great attention, an account of which may be found in the files of the London *Times*, of that date. They were, also, afterwards exhibited at Paris.

I enclose, also, to you the following extract of a Report made to the New-York Agricultural Society, by a committee of scientific gentlemen, December 1, 1854:

The undersigned cannot avoid the conclusion that, in the animals imported by Dr. J. B. Davis, and whose descendants have been the subject of this examination, we have the first known specimens of that valuable race of animals from whose hairy fleeces the celebrated shawls are manufactured—the shawls known in commerce by the inappropriate name of 'Real Camel's Hair.'

The introduction of this variety promises to be of more value to the agriculture of the United States than that of almost any other domestic animal.

JAMES RENWICK.
JAS. R CHILTON.
WM. H ELLIOT.

After a careful examination of the whole subject, I cannot avoid the conclusion that the introduction of the animal will constitute an era in manufacturing which cannot fail to result in great profits to those engaged in it. There has not been a single instance up to this date, where the Cashmere Shawl Goat has brought at sale less than $1000 each. RICHARD ALLEN.

Annual Crops of Wheat from one Field.

MESSRS. EDITORS—A statement to the following effect has been recently made in a Western State by a farmer recently from your State. Two farmers in the neighborhood of Cayuga lake had each a bed of plaster upon his farm. Desirous of ascertaining the effects of raising a crop of wheat every year from one field, while sowing clover and using plaster liberally with every crop, each one devoted a field or fenced off a patch for this purpose. Wheat was sowed in the month of Sept. of each year and clover seed to the extent of twelve or fifteen pounds either with the wheat or in the following spring, to which plaster was applied in very liberal quantities. After eight or nine years of such management, the crops of both grain and straw improving all the while, the statement represented that the straw became so luxuriant that it could not be prevented from falling down or lodging. The person making this statement could not inform us what was next tried upon these fields. Our curiosity was considerable to ascertain whether the fields had become "too rich" for Indian corn as well as wheat, and also whether the falling down of the wheat was owing to a want of the necessary silicates, or to what other cause.

Now as those from a far country sometimes indulge in manufacturing large stories, or in stretching real facts into surprising dimensions, several of your Western readers would like very much if you or any of your correspondents could state the *exact* history of the experiments referred to, if any such have indeed ever been made. Experiments of this kind, in sufficient number to afford a stable foundation upon which to rest a general law or rule, would certainly be exceedingly interesting as well as highly valuable for the new light which might thereby be thrown upon the science and art with which cultivators of the soil have the nearest concern. Even two experiments of this kind would possess a good deal of the same kind of interest and value.

If any report of this kind, or of the experiments referred to, have ever appeared in your columns, it must be wholly unknown to a large proportion of your present readers. And if a written and printed statement of the facts should interest hundreds of your present readers as much as the verbal statement interested the present applicant for farther information, one or two of your columns would be occupied to good advantage. OBS.

Sheep Shearing Festival near Brownsville, Pa.

The public shearing of the flock of pure Merino sheep of Gen. JOHN S. GOE took place at his residence 4½ miles east of Brownsville, Penn., in presence of a large number of citizens, at which time, and in order to give expression of their admiration of his fine pure bred stock, a meeting was organized by electing Mr. Wm. Dunaway President, Mr. Geo. Crafts Vice President, and Dr. W. L. Lafferty Secretary.

On motion the Chairman appointed the following committee to superintend the weighing of the fleeces of the different sheep, and also to examine his fine Short-Horned cattle, and Suffolk and Essex Swine.

Report of Committee.—The undersigned having superintended the weighing of the wool do report as follows:

Weight of fleece—lbs. oz.

No. 1—French buck,	14 12	unwashed.
No. 2, do	15	"
No 3, do	9 10	washed.
No. 4, do	7 4	"
No. 1—French Ewe,	14 14	unwashed.
No. 2, do	10 4	washed.
No. 3, do	9 10	"
No. 4—French Ewe Lamb,	7 14	"
No. 5, do	8	"
No. 6, do	8 1	"
No. 7,* do	7	"
No. 8,* do	7 1	"
No. 9,† do	5 7	"
No. 10,† do	5 7	"
No. 1—Spanish Buck's Fleece,	7 2	"
No. 2, do	6 11	"
No. 3, do	6 6	"
No. 4, do	6 7	"

Spanish Ewes—Fleeces Washed.

	lbs. oz.		lbs. oz.
No. 1,	6 12	No. 8,	5 8
No. 2,	5 2	No. 9,	5
No. 3,	4 12	No. 10,	5 14
No. 4,	4	No. 11,	4 12
No. 5,	4 9	No. 12,	5 8
No. 6,	4 6	No. 13,	4 14
No. 7,	6	No. 14,	5 14

JACOB WOOLF, Fayette Co., Pa.
WM. COLVIN, " " "
J. B. PATTERSON, " " "
WM. HALL, " " "
JOHN POSTLEWAITE, Burlington, Iowa.
} Com.

The committee then proceeded to examine his fine Short-horned cattle, Suffolk and Essex swine, after which the following resolutions were read and adopted:

Resolved, that Gen. JOHN S. GOE is entitled to the thanks of the community for his industry and perseverence in procuring, by a great outlay of means in the purchase, and breeding of the very valuable assortment of pure bred stock now to be seen on his farm, all of which are unsurpassed in western Pennsylvania.

Resolved that a copy of the proceedings of this meeting be sent to the editors of the different agricultural Journals and also to the different newspapers of this county.

WM. DUNAWAY, Pres't.
W. L. LAFFERTY, Sec'y.

The Garget—A Cure.

One of our best cows has just recovered from a severe attack of the garget. For two days we tried cold water washing, but it proved of no benefit. We also fed her garget root, without any benefit from that. We then tried washing the udder with very strong soap suds, warm as I could bear my hand in it; two applications perfected an entire cure, and in a few days she returned to her full flow of milk. M. F. *Root, N. Y.*

* Nos. 7 and 8, twin lambs, 10½ months old.
† Nos. 9 and 10, " " 6 " "

Spanish Merino Sheep.

MESSRS. EDITORS—You frequently give us descriptions of celebrated animals. I will give you a description of a few Spanish Merino sheep I bought last February of JULIUS STICKNEY of Shoreham, Addison Co., Vt., which were bred by him. One buck, one year old last April, one ewe, 3 years last April, and 6 two years last April, which ewes all have lambs.

They were shorn June 8th, unwashed, but the wool was very clean, as their fold was kept well littered with clean straw.

	lbs. oz.		lbs
Buck's fleece,	13 8	Carcass	84½
Ewes, 3 year old, No. 1,	8 5	"	86½
" " No. 2,	8 14	"	75½
" " No 3,	9 12	"	78
" " No. 4	10 9	"	69
" " No. 5,	11 10	"	76
" " No. 6,	9 12	"	81
" " No. 7,	7 10	"	67

If the ewes had not had lambs, I am of the opinion they would have averaged at least each one lb. more wool. All wobl growers are well aware that ewes after lambing, become feverish, and lose more or less wool. No. 1, the 3 years old, must have lost at least two pounds of her wool. Mr. Stickney sheared a yearling ewe at the late sheep show held at Penn-Yan—carcass 52 lbs., and fleece 10 lbs. 12 oz. O. F. MARSHAL. *Wheeler, N. Y., June 19th.*

Sheep-Shearing at Middlebury, Vt.

Mr. A. L. Bingham's annual Sheep-Shearing came off at Middlebury, Vt., on the 17th and 18th of June, on the grounds of the Addison Co. Ag. Society. We copy from the *Middlebury Register:*

Eight vigorous young men plied the shears, while from time to time a Band from Rutland under the leadership of Mr. Farr discoursed some very good music. Among the shearers, B. F. Bingham, J. H. Canfield and Monroe Peck, seemed prominent in the rapidity and dexterity of their operations. The number of sheep sheared was 38 French Merino Ewes: the average weight of body about 76½ pounds and of fleece 17⅜ pounds; nine French Merino Bucks whose average weight of body was 94½ pounds and of fleece 19½ pounds; and 15 half-blood French and Spanish Ewes raised by T. B. Hawley of Cornwall, whose average weight of body was about 56 pounds and of fleece 13¼ lbs. All the sheep shorn were yearlings, and appeared in excellent order. We think the facts show that Mr. Bingham is entitled to a foremost position among the Agriculturists who have devoted themselves to this particular interest, and wish him abundant success.

On Wednesday, in connection with Bingham's Sheep Shearing, was a very fine exhibition of Horses, brought in from various parts, on invitation and offers of liberal premiums. In the morning the crowd came in from all quarters very much as at an old fashioned Commencement, and had the day held fair throughout, there is no doubt the collection of people and of horses would have been much larger than it was. Premiums had been offered for speed alone, and also for all points necessary to make the best horse. The latter were distributed to Gustavus A. Austin of Orwell, for Hambleton Horse, Henry Turrill of Shoreham, Henry Farnsworth of Crown Point, and Isaac Williamson of Middlebury, the latter for matched horses.

On the trial of Speed the premiums were awarded to Fordyce Nash of Middlebury, Henry Turrill, and Ira Wright of Weybridge. The horses taking these premiums were all Black Hawks.

The best time made, was by Mr. Henry Turrill's Black Hawk, which went his mile in three minutes. The horses were all untrained, and the track was heavy from the rain which had been falling nearly all day.

The Great Sale at Mt. Fordham.

The sale of Col. L. G. MORRIS' high-bred stock came off, agreeably to advertisement, at Mount Fordham, on the 24th and 25th of June, and drew together the largest company we have ever witnessed on any similar occasion, including a large number of ladies. The forenoon of the first day was spent in the examination of the noble herds, including the large number of Short Horns not for sale. That having been accomplished, the company partook of a collation, for which their morning's ramble over the premises seemed to have given them a relish.

At about 3 o'clock, Col. J. M. MILLER, the well-known master of ceremonies on such occasions, called the company to the auctioneer's stand and commenced operations. The Short Horn Bulls were first brought to the stand, and twelve of them sold—the other four not being promptly bid for, were withdrawn. These, however, were all sold the next morning at private sale, at good prices—the whole 16 on the catalogue, and all but two of them calves and yearlings, averaging over $332 per head.

The Devon bulls and bull calves were next brought forward, for which the bidding was very spirited, the whole (seven) being sold at an average of over $214 each. The sale was then adjourned to 10 o'clock next morning.

We were unable to be present on the second day, but a correspondent says—"The second day of Col. MORRIS' great sale was more animated even than the first. The day itself was all that could be desired—pleasant and comfortable—and the company in the best of spirits—and bidding brisk and competition very spirited. The Devon cows were first sold and the prices for the Devons were larger than any public sale, we think, ever held in this country. The South Down sheep sold at very high prices—but they were of remarkable excellence, doing great credit to Col. MORRIS as a breeder, as did the Devon stock. The swine also brought good prices, and the sale was animated to the last." Every animal on the list, with the exception of two Devon cows (not breeding) and a few of the sheep, which for a similar reason were reserved for fattening, was sold, a complete list, with the purchasers and prices, we annex. "There has never been," says our correspondent from whom we have quoted above, "a sale in this county equaling this in prices for the same breed of animals. We are glad to announce this testimonial of approbation from the intelligent gentlemen who were present, of the value of the stock bred by Col. MORRIS at so much expense and with so much skill and care. He is entitled to it most richly, and we are gratified that in retiring as he now does from breeding Devons, South Down Sheep and Swine, he does so with a reasonable remuneration for his investment and care in breeding."

SHORT-HORN BULLS AND BULL CALVES.

1. Romeo, 6 yrs. old, imported, bred by Marquis of Exeter, Rebur & Kutz. Lancaster, Ohio,	$600
2. Nissequag,* 2 yrs. old, W. B. Hill, Bridgeport, Ct	225
3. Suffolk Hero,* yearling, George Clark, Springfield, N. Y.	325
4. Zouave,* yearling, William Kelley, Rhinebeck, N. Y.	300
5. Balconi,* yearling, Mr. Van Ingham, N. J.	160
6. Charlemagne,* yearling, Capt. Joseph Hilton, New-Scotland, N. Y.	245
7. Brawith's Boy,† yearling, Francis Morris, Throg's Neck, N. Y.	340
8. Marmion,* 9 mos., B. & C. S. Haines, Elizabeth, N. J.	500
9. Jacintha's Romeo, bred by Morris & Becar, John Hunter, Hunter's Island, N. Y.	400
10. Chester,* 8 mos., David Brooks, Avon, N. Y.	300
11. Orpheus,† 6 mos., J. B. Crippen, Cold Water, Mich.	675
12. Belmont,* 4 mos., Amos F. Wood, Jefferson Co., N. Y.	375
13. Stanley,† 4 mos., Benjamin Whitlock, West Farms, N. Y.	210
14. Barrington,* 3 months, Joseph Orvis, Massena, N. Y.	150
15. King of Algiers,* 2 mos., Robert Gerdon, Paris, C. W.	400
16. Bailiff,† 1 mo., Joseph Orvis, Massena, N. Y.,	110
	$5,315

* Bred by N. J. Becar.
† Bred by L. G. Morris.

DEVON BULLS AND CALVES.

1. Frank Quartly, 5 yrs. old, imported, bred by John Quartly, Col. B. P. Johnson, Albany	$350
2. Wawayanda, yearling, W. B. Hill, Bridgeport, Ct.,	150
3. Crusader, yearling, George D. Parrish, Burlington, N. J.,	105
4. Prince, yearling, Jacob Buckhart, Morrisania, N. Y.,	150
5. Somerville, 8 mos., L. H. Colby, Groton, N. Y.	155
6. Byron, 7 months, Francis Morris, Throg's Neck, N. Y.,	250
7. Master Birthday, 4 mos., Richard Peters, Atlanta, Ga.,	340
	$1,500

DEVON COWS AND HEIFERS.

1. Birthday, 12 yrs., imported, L. H. Colby, Groton,	$450
2. Princess, 9 yrs., imported, Francis Morris, Throg's Neck, N. Y.,	340
3. Virtue, 8 yrs. imported, Francis Morris,	440
4. Edith, 8 years, imported, Joseph Hilton, New-Scotland, N. Y.,	300
Birthday 2d, 3 years.—was set up at $250—(not breeding)—was withdrawn by Col. Morris to fatten—$300 was afterwards offered for her.	
5. Princess 2d, 3 yrs., Hon. John Wentworth, Chicago, Ill.,	275
6. Birthday 3d, 3 yrs., Francis Morris, Throg's Neck,	325
7. Princess 3d, 2 yrs., A. G. Summer, Columbia, S. C.,	250
8. Birthday 4th, 2 yrs., Francis Morris, Throg's Neck,	350
9. Princess 4th, yearling, John Wentworth, Chicago,	265
10. Rena, yearling, E. D. Hunter, Pelham, N. Y.,	230
11. Rachel, 5 mos., B. M. Whitlock, West Farms,	175
12. Princess 5th, 6 weeks old, A. G. Summer,	150
13. Rouge, aged cow, Joseph Hilton, New-Scotland, Fuchsia, 5 yrs.—not Breeding—was withdrawn to fatten.	125
14. Ruth, 3 yrs., Joseph Hilton, New-Scotland, N. Y.,	225
15. Princess 6th, 4 weeks, Hon. A. B. Conger, Waldeberg, N. Y.,	110
16. Birthday 5th, 2 weeks, Francis Morris,	150
	$4,160

SOUTH DOWN RAMS.

1. Young York, 4 yrs., imported from Jonas Webb's Flock. Samuel Thorne, Thornedale, N. Y.,	$400
2. A Two year old, L. F. Allen, Black Rock	25
Yearlings, sired by Young York.	
3. John Bard, Tarrytown, N. Y.,	140
4. S. O. Wilson, Norwalk, Ct.,	175
5. E. Corning, Jr., Albany, N. Y.,	125
6 and 7. Mr. Sheldon, N. J.,	220
8. Gen. Cadwallader, Philadelphia, Pa.,	105
9. J. B. Crippen, Cold Water, Mich.,	90
10. Wm. Summer, Columbia, S. C.,	70
11. W. W. Glenn, Baltimore, Md.,	55
12. Simeon Orr, Mississippi,	40
13. W. Furnistone, Easton, Pa.,	30
14, 15, 16, 17. L. F. Allen, Black Rock, N. Y.,	105
Ram Lambs.	
18. "Master Fordham," J. C. Taylor, Monmouth Co., N. J.,	130
19. Simeon Orr, Mississippi,	40
20. Thomas P. Devereaux, Norfolk, Va.,	35
21, 22. J. C. Taylor, Monmouth Co., N. J.,	40
23, 24, 25, 26, 27. John Hunter, Westchester Co., N. Y.,	60
	$1,885

SOUTH DOWN EWES.

1—5. Prize Lugar Ewes, imported, S. Thorne, at $140, 150, 160, 140, 150,	$740
6. Jonas Webb Ewe, imported, J. C. Taylor, Monmouth Co., N. J.	140
7—13. Jonas Webb Ewes, Samuel Thorne, $160, 130, 180, 140, 180, 105, 105,	1000
14. Jonas Webb Ewe, J. C. Taylor,	80
15, 16. Jonas Webb Ewes, Col. A. G. Summer, $100, $75,	175

17—21. Jonas Webb Ewes, E. Corning, Jr., at $110 each,	550
22, 23. Bred by Col. Morris, J. C. Taylor, at $105 each,	210
24. Samuel Thorne,	110
25, 26. Simeon Orr, at $100 each,	200
27—37. J C. Taylor—six at $25, and five at $20 each,	250
38, 39. Francis Morris, at $20 each,	40
Yearling Ewes.	
40, 41. Gen. Cadwallader, Philadelphia, at $55,	110
42, 43. Mr Sheldon, Monmouth Co., N. J., at $50,	100
44—49. J. B. Crippen, Cold Water, Mich., at $50,	300
50—55. S. O. Wilson, Norwalk, Ct., at $50,	300
56—59. Mr. Sheldon, N. J., at $45,	180
Ewe Lambs.	
60, 61. J. H. Reid, Frederickton, N B., at $40,	80
62—74. Gen. Cadwallader, 2 at $40, 8 at $35, 3 at $20,	420
75—77. J. C. Taylor, N. J., at $25,	75
78. Thomas P. Devereaux, Norfolk, Va.,	15
	$5,075

BERKSHIRE SWINE.

Imported Boars, Master Burke, R. Peters, and Sir Robert, D. B. Haight, at $35 each,	70
Young Boars, one to R. Peters and Joseph Hilton at $30—Mr. Wilmerding, Islip, L. I., $45—Simeon Orr and Mr. Hunter, at $20—L. F. Allen, $15,	160
Imported Sows, one to Mr. Furnistone, with 4 pigs, $75—one to Mr. Delaney, Va., $80—Mr. Hunter, $50,	205
Sows bred by Col. Morris, one to Samuel Thorne, $65 Mr. Hunter, $60— Thomas Ellison, $45—Simeon Orr, $30—Mr. Johnson, New-York, $25—two to Wm. Giles, Yonkers, $20 and $25—L. F. Allen, $20,—two to David Pugh, New-Orleans, at $15—one (crippled.) Mr. Butterworth, $7.50,—Jacob Buckhart, $35,—R. Peters, $50	412,50
Pairs of Pigs, J. G. Holbrook, $27.50—Joseph Hilton, $24—A. B. Conger, $22.50—Wm. Giles, $21,	95
Three Sucking Pigs, A. B. Conger,	37.50
	$980

ESSEX SWINE.

Imported Boar "Fisher Hobbs," $27.50, and two sows, at $75 and $72.50 to A. B. Conger—one sow to John Hunter, $25—one to J. M. Miller, $25, and one to N. J. Becar, $55,	$280.00
Pigs, 8 mos old—two to George P. Nelson, Peekskill, at $25 each—one to John Jay, Bedford, $27.50,	77.50
	$357.50

SUMMARY.

16 Short-Horn Bulls and Bull Calves,	$5,315 00
7 Devon Bulls and Bull Calves,	1,500 00
16 Devon Cows and Heifer Calves,	4,160.00
27 South Down Rams and Ram Lambs,	1,885 00
78 South Down Ewes and Ewe Lambs,	5,075 00
Berkshire Swine,	980 00
Essex Swine,	357 50
	$19,859.50

Culture of the Onion.

MESSRS. TUCKER & SON—I wish some information about the culture of onions. What quality of soil, what kind of manure is best adapted to the different varieties of soils? I have almost every variety of soil. When is the best time to plant? How much seed will plant an acre? Do you think it a profitable crop?

I have lime, ashes, muck, stable and barn-yard manure. What quantity of each kind of manure, for each kind of soil? W. S. O. *Greeneville, Tenn.*

A light but rich soil is generally preferred—although we have known some of the most successful cultivators to adopt a rather stiff soil. A dark colored loam appears to be best; heats soonest in spring. The manure should be applied in autumn, and fine stable manure or well rotted compost is best. Ashes is a good application, and repels insects. It must be of such a character as to mix well with the soil, and should be well harrowed to break it up fine, before turning under, or the lumps of manure will be very troublesome in hoeing. The quantity per acre must depend on circumstances, and its fineness. Of common yard manure, not more than six or seven large two-horse loads can be well mixed at a time. Double that quantity of compost may be applied. As early as practicable in spring, plow seven inches deep, and harrow thoroughly, and sow immediately in drills 14 inches apart. It is very important to have the crop in soon. Hoe on the first appearance of young weeds and keep perfectly clean. Five or six pounds of seed are required per acre; "sets," are only used for garden and not field crops. Onions are quite profitable where there is a good market, and pains are taken to secure the requisites for a good crop. Seven hundred bushels have been raised per acre—450 or 500 are more common with good cultivators.

Hardy Varieties of Fruits.

MESSRS. EDITORS—Being a subscriber of your valuable Cultivator and Country Gentleman for some years past, I would like to get some information from you on fruit trees, climate, &c, as we have a colder and shorter season on the north side of this lake than in the state of New-York. I think it is the cause of failure of many of the fruit trees that are brought to this side from the states, especially the pear and peach trees. I would like you to name a few of the most suitable apple, pear, peach, and plum trees that would suit to plant here in Canada. Many persons here purchase the most popular kinds and plant them carefully, and when they do not come up to their expectation, they say, "O, there is no use in getting trees from the states to plant in Canada; they don't suit the climate, or else we do not get the kind advertised, or we are cheated by the nurserymen." Our natural fruit grows luxuriantly here; that is, the apple, plum, and cherry trees. Of course their quality is not No. 1. The black knot has destroyed nearly all the best plums here. The native plum is not touched with it any where that I have seen. I have seen many experiments tried to cure and keep it away, but none of them seem to answer. WILLIAM HOVEY. *Port Hope, C. W.*

Undoubtedly a great advantage would result from selecting the most *hardy* varieties of our best fruits; and by adopting this course in connection with good cultivation, we think our friends at Port Hope might succeed to their satisfaction. Actual trial is of course the best test of sorts; but as some guide, we would recommend our correspondent to examine the list published in the 24th number, present volume, of the Country Gentleman, of such varieties as have proved hardiest at the west. The climate there is quite different from that of Canada in several particulars, more especially in its greater and longer continued heat, but still there are many points of similarity.

Among *Apples*, we would especially recommend Red Astrachan, Duchess of Oldenburgh, St. Lawrence, Fameuse, Yellow Bellflower, Green Sweet, Esopus Spitzenburgh, Golden Russet. *Cherries*, any of the Dukes and Morellos, namely, Mayduke, Early Richmond, Belle de Choisy, Belle Magnifique, Carnation, Reine, Hortense, &c. Of *Plums*, the Lombard appears the hardiest by all odds, after which we would place the Bingham, Washington, Smiths' Orleans, and Schenectady Catherine.

We have never found any difficulty in keeping off the black knot, by cutting away freely all affected parts, provided the treatment is promptly and unremittingly applied. Of course, the trees need attention several times a year, but the labor is not half so great as to tend a patch of cabbage—and if half the tree is lopped off, it will grow again—which is much better than to let it wholly die of the knot.

Inquiries and Answers.

WORMS ON FRUIT TREES.—A., of Buffalo, wishes to know of "an effectual method of destroying *worms* that infest fruit trees." He has some fine plum and pear trees nearly destroyed by them, in spite of a number of remedies.

The term "*worms*" is usually applied to caterpillars and all other sorts of larvæ, of which we have a vast number of sorts. We cannot know what one our correspondent refers to. Some may require quite opposite treatment from others. But any thing that will *kill* them, will be effectual so far as it goes, and the more easily or rapidly they are killed, the better the remedy. There are numerous remedies for insects in general, such as dusting with various offensive substances, assailing them with fœtid odors, &c., &c. But of all remedies proposed, those should be selected as best, whose essential character consists in *death* to the insect—all others are usually uncertain and inefficient. We cannot go more into detail, without knowing the insect referred to.

BRINCKLE'S ORANGE RASPBERRY.—Can you give me in the columns of the Country Gentleman, a description of Brinckle's Orange Rasberry? I once saw them highly recommended. I ordered some from a nursery. They fruited last summer. The fruit, a small sized, dark red, conical berry, with an indifferent flavor. L. A. *Whitby, C. W.* [Our correspondent received a spurious and worthless sort. The *Orange* is a large, ovate, handsome berry, of a light orange color, and of excellent flavor. The bark is vigorous and productive.]

DISTANCE FOR APPLE TREES IN NURSERY.—Last fall I planted some pomace with the intention of raising a nursery. I wish to know how far the rows should be apart and how far apart in the row. J. H. B. *Newton, Ct.* [If for a nursery of apple trees, as we suppose our correspondent intends, the trees should be planted in rows four feet apart, and the trees 8 inches to one foot in the row. If the trees are for setting in orchards when 6 or 7 feet high, 8 inches, or even 6 inches, will not be too near in the row; but if they are to remain till 8 or 10 feet high, the distance should be at least one foot.]

TILE MACHINE.—Can you inform me whether the press for making tile is patented or not? If not, can you give instructions through your paper that will enable a mechanic to construct one? We have no machines in this neighborhood, and the transportation costs so much that there are none in the market. Please answer soon, as there is a potter in this place who wishes to manufacture them, if he can do so at a fair profit. PHILO NORTON. *Connellsville, Pa.* [We think they are not patented; but the cheapest and best way for your potter to procure one, would be to order it from a manufacturer who understands the business, and whose machine could be relied on. They are made by PRATT & BROTHER, Canandaigua, N. Y.]

THE CHERRY-BIRD.—If your correspondent H. H. B., will procure saplings a few feet taller than his cherry trees, and remove all the branches from them except a few at the top, and shorten those to about one foot in length, and secure a sapling through each tree, as near the center as possible, having the sapling project about three feet above the top of the tree, he will be able to shoot the cherry birds without injury to his trees. But I hope he will not shoot either the robins or the woodpeckers, as I think the insects they destroy more than a compensation for the cherries they eat. L. A.

MARL.—H. P. RARNUM of Ashley Falls, Mass., wishes information in relation to the value of two beds of marl, discovered on his farm. Like shell marl generally, it is grayish white, "like ashes and plaster mixed," and effervesces violently with strong vinegar. It is no doubt good marl, and 50 to 2 or 300 bushels per acre may be useful to his land, in connexion with manuring. Marl or lime (both operate in precisely the same way) has in some instances greatly increased the value of thin or worn-out lands, and in many other instances has produced no sensible benefit. Our correspondent must make the trial, remembering that its effects, although more lasting, are not nearly so striking as those of common manure, and cannot be ascertained with any satisfaction without accurately *measuring* the results.

THE MICHIGAN OR DOUBLE PLOW.—In reply to the inquiry in relation to this plow, in our last issue, we may state that one of the editors of this paper has used this plow to some extent for several years past, with marked results. The plow used was of the largest size, requiring three yoke of oxen to draw it satisfactorily. In old pasture, the average depth, by measurement from the grass side of the furrow, was eleven inches and a half. On the side of the freshly-turned earth, which was of course thrown up loosely, the depth was 18 to 20 inches. The sod was completely hidden by the mellow lower earth thrown upon it, so that it could be harrowed into a perfectly clean and mellow surface—and admitting, if desired, a coating of manure to be turned in near the surface by means of the gang-plow.

The growth of young trees on this plowed land, greatly exceeded anything of the kind met with elsewhere, on similar soil.

The plow must be a good one, and be properly guaged and managed, or it will probably be pronounced a failure. Its management is, however, quickly understood, and is not more difficult than that of other plows.

INQUIRY.—Is there any cure for wingalls on horses? I have a young one, getting them on all his legs. An old English horse book says they may be cured by opening with a lancet, pressing out the gummy matter, and then bandaging for a time. If any one of your readers has tried this, will he please report. The same horse has small knots like warts, about the size of a chestnut, on his breast. They were caused by pressure of the collar. Would it be safe or useful to apply muriatic acid to these? D. E. E.

PLAN FOR POULTRY HOUSE WANTED.—Can you or any of your correspondents, furnish me with the plan of a poultry house for my family of Dorkings, combining warmth in winter, coolness in summer, light and ventilation, and last but not least, shall be cheap, of a size to contain from ten to fifteen fowls. Also, what sized yard must I have, so that fowls may preserve their health, during the season when they would naturally require to have a range sufficient to enable them to procure worms and insects. AN OTSEGO BOY.

STUMP PULLERS.—The Country Gentleman of the 12th June is before me, and I notice an inquiry in relation to stump machines, from one who desires to know where they are manufactured. I will therefore announce that a regular stump machine manufactory is established in Owego, Tioga Co., N. Y., where machines of different kinds are constantly kept on hand, and where large numbers are being shipped to different parts of the country every year. R. H. HALL.

THE IVY.—Can you inform me through the Country Gentleman, where I can obtain some cuttings or roots of the Ivy? The English Ivy is the kind I want, with its round leaf, climbing over the house in its dark evergreen. J. A. PAIN. *Clyde, N. Y.* [You can procure it, we doubt not, of FROST & Co., or ELWANGER & BARRY, Rochester.]

POLAND HENS.—Can you inform me where I can purchase a good pair of Black Poland hens? Doubtless some of your subscribers have them. W. R. H. [We presume you can get them of Wm. Hurst at the Alms-house, or of E. E. Platt or E. A. Wendell, or half a dozen others, in this city.]

GARDEN MOLES.—Will you inform me through the columns of your paper, if there is any method of keeping moles out of one's garden. I have tried various methods, but have, as yet, found none which has afforded any relief. There are a great many of this species of vermin in our neighborhood, and their depredations are, to say the least, very annoying. R. S. W. *New-York.* [Having had no experience with "moles," we are under the necessity of requesting such of our correspondents as have routed them successfully, to give us the method.]

TRANSPLANTING EVERGREENS, PEAR STOCKS, &c.—What is the proper time for and manner of transplanting evergreen forest trees, Spruce, Balsam, Pine, &c., and what sized trees would it be best to take, transplanting from swamps where they grow naturally, to open ground and an entirely different soil?

How does the common thorn apple answer as a stock on which to graft the pear, and how would the pear answer as a stock for apples? W. B. *Louisville, N. Y.* [Spring is the best time for setting out evergreens—although success sometimes attends the operation if performed in summer, at a moist time, at a period of cessation in growth, and with plenty of earth on the roots. The great secret for success is to remove and carry with the roots a large portion of the earth in which they grew,—enough, as a general rule, to hold them against the wind without staking. Some evergreens, as the balsam, for example, will often live without this precaution, provided the roots are not allowed to be exposed a moment to the dry air—plunging them immediately into wet moss or wet straw, till mudded and heeled-in or planted. Others, as white pine, will never grow without a mass of earth taken with the roots; and with it, they will *always* succeed. Five or six feet high is a good size; although with extra pains we have succeeded well with trees twelve feet high.

The thorn sometimes answers well for some sorts of pears, but we cannot recommend it. The pear for apple, may prevent the attacks of the borer, which does not often attack the pear.]

MULCHING.—I have been mulching some pear trees that I have, to keep the ground moist and in good condition. I used straw, but since using it, I have been somewhat afraid that it might serve as a nest for mice, and encourage them to girdle the trees. Is there any danger, at any rate before winter? As the "Country Gentleman" is expected to know everything, I come to you for advice. A SUBSCRIBER. *Castleton, N. Y., July* 4, 1856. [There is great danger of straw-mulching proving a harbor for mice on the approach of winter. It must be removed in autumn as soon as hot weather ceases, and growth is at an end; and it would be safer in all cases if a small smooth mound of fresh earth be raised a few inches around the foot of the trunk, and which is not to be covered with the straw.]

THE ROSE BUG.—Is there any efficient protection against the ravages of *rose bugs?* They attack cherry trees and grape vines, destroying half the fruit on the former, and *all* the fruit-blossoms on the latter, and greatly injuring the foliage of both. I have used a strong solution of whale-oil soap, a decoction of quassia, a strong tea of red-peppers, and have fastened to the trellis tufts of cotton saturated with spirits of turpentine, but all without effect. I have picked *thousands* from a single grape vine, giving over my efforts only after every blossom had been destroyed, while the rose bugs were more numerous than ever. What can be done *next* year, that will save the grapes? K. S. *Vernon, Conn., July* 10, 1856. [We hope soon to give a paper on the Rose Bug from Dr. FITCH. In the meantime if any of our readers can enlighten our correspondent we shall be glad to hear from them.]

DRAINING SMALL HOLLOWS.—In answer to an inquiry, in the Co. Gent. of 12th June, from W. J. P., in reference to draining a wet place surrounded by dry soil, I would advise underground drains to lead off in the dry soil some little distance, two or four rods, as may appear best, according to the amount of water to be drained off. It cannot do the dry land any harm, but may do it good, unless it be in a very wet time—or at least such has been my experience, and it has done well. Dig quite across the wet land a good depth. A SUBSCRIBER.

YELLOW CLOVER.—*J. W. Traver.* The plant you left at this office for the name, is the Yellow Clover, *Trifolium procumbens.* It is not worth cultivating.

ASPARAGUS AND CRANBERIES.—F. C., *West Meriden, Ct.* The soil for asparagus should be spaded three spades deep, and thoroughly pulverised and mixed with well rotted dung. Make your beds four feet wide, and place your plants one foot apart each way in the bed. This must be done in the spring, and the plants should not be cut for use until the second season. The roots can be procured of almost every nurseryman. You can get cranberry plants of F. TROWBRIDGE, New-Haven, Ct., who will furnish direction for their culture. We can furnish you the Cultivator or 1853 and 54—also the Register for 1855.

RASPBERRY VINEGAR.—*B. G. F., Gerry, N. Y.* The following is a good receipt for making raspberry syrup or vinegar. The vessels used in making or preserving it, should be China or glass. Mixed with water, it is one of the most pleasant as well as wholesome summer drinks:

Put one quart of best vinegar, (white is preferable) to two quarts of raspberries not over ripe. Let them steep in the vinegar twenty-four-hours; then strain them through a sieve without pressing the fruit, and pour the liquor so strained on two quarts more of raspberries. In twenty-four hours more strain it off again, and to a pint of juice put one pound and a half of very fine loaf sugar. Put the above into a jar and the jar into a pan of warm water, and let it stand till all the sugar is melted, taking off the scum as it rises; then take the jar from the warm water, and when cold bottle off for use.

NEW USES OF BEETS.—A new species of manufacture has just been brought into existence in France, viz., the fabrication of paste board or *papier mache,* from the pulp of beet root. This fabrication is already carried on to some extent in the commune of Toulain, and can be employed, it is said, with advantage in ornaments, tea-trays, and other such articles. A new alimentary production has, also, just been invented, made from beet root. It very closely resembles coffee and has received the name of *betterave torrefiée* (scorched beet.) When mixed in equal proportions with West India coffee, the taste is by some persons thought more agreeable than that of the genuine article. It is thought to be less heating, and we would very confidently expect that it would be greatly less stimulating and injurious to the nervous system. Let coffee drinkers raise a few beets in their gardens and make trial of such a mixture. As a minor recommendation it is said that coffee made from the mixture of scorched beet and genuine coffee, does not require above half the usual quantity of sugar.

AGRICULTURAL PROGRESS IN FRANCE.—The Emperor of the French does some wise things. He has had much to do in getting up a very extensive Ag. Exhibition, which was closed in June. He has bought him a large farm, and has purchased some of the excellent stock to which prizes had been awarded at the recent exhibition. Another wise thing done by the Emperor, is his recommendation of a large appropriation of public money to aid and encourage draining throughout France.

Notes for the Month.

NEW-YORK STATE AGRICULTURAL COLLEGE.—A meeting of the Trustees was held at Ovid, the 12th of June. Present—Hon. John A. King, Chairman of the Board, Hon. William Kelly, Hon. Henry Wager, Hon. William Buell, Joel W. Bacon, Esq., Abraham A. Post, Esq., B. P. Johnson, Esq.

Mr. King was re-elected Chairman for this year.

Vacancies in the Board, occasioned by the death of John Delafield, resignation as Trustee and Treasurer of N. B. Kidder, and of Tallmadge Delafield as Trustee, were supplied by the election as Trustees of Hon. Josiah B. Williams, of Ithaca, Rev. Amos Brown, of Ovid, Hon. Samuel Cheever, of Waterford, Saratoga Co. Joel W. Bacon, Esq., of Waterloo, was elected Treasurer in place of Mr. Kidder, resigned, and Rev. Amos Brown, Secretary, in place of Mr. Bacon, elected Treasurer. Mr. Bacon, Mr. Brown, and N. P. Ellis, of Ovid, were appointed a Committee to obtain subscriptions—and were desired to obtain special subscriptions for the endowment of the *Delafield Professorship of Agricultural Chemistry.*

Hon John A. King, from a Committee consisting of himself, J. W. Bacon and B. P. Johnson, to examine such farms as might be deemed suited for the College, reported that they had devoted two days to the examination of upwards of twenty farms, situate mostly in the town of Ovid—a description of each of which the Committee presented to the Board, and the report was laid upon the table for future consideration.

The Committee on subscriptions reported the amount of subscriptions which had been reduced to notes in form to secure the appropriation from the State; but as they had not time to complete the work, the Board postponed the selection of a farm and the election of officers for the College until a future meeting, to be called for that purpose.

Rev. Mr. Brown was requested by the Board to devote the ensuing six months to obtaining subscriptions and calling the attention of the public to the importance of the institution.

The thanks of the Board were tendered to Mr. Brown for his able and successful efforts in securing the appropriation from the Legislature of $40,000 towards the endowment of the College—which renders its establishment in full and successful operation at an early day no longer a matter of question.

The subscription to the College already exceeds $40,000, and will be increased to a much larger amount. The people of Seneca county, especially the citizens of the town of Ovid, have done nobly, and it can scarcely be a matter of doubt that farmers and friends of the cause, in other sections of the State, will esteem it a privilege to contribute to the endowment of this State institution, so as to secure its advantages to every child of the farmers and mechanics of the State who may desire it.

WOOL.—Mr. ELIAS WILLIAMS of Canaan Four Corners, N. Y., has sent us fourteen samples of wool from a cross between Saxon and Merino sheep. They are very handsome specimens. The best way to ascertain the price of such wool, would be to enclose samples to H. BLANCHARD & Co., Wool Depot, Hartford, Ct.

NEW WHEAT.—The sample of wheat which accompanied the annexed letter, is a very fine one—the berry plump and well filled, and shows that good wheat can be grown in Southern Illinois.

Chicago, Ill., June 27, 1856.

By express I send you sample of new Wheat, of the variety known as "May Wheat," grown in the high timber lands of Southern Illinois, 35 miles north of Cairo, north latitude 37 deg. and 30 min. The crop is now in, and though the yield is not large, yet the quality is very superior. R. FORSYTH, *Genl. Fght. Agt. I. C. Railroad.*

☞ Breeders of Devons will not fail to notice the advertisement of the fine herd of Devon Cattle, bred and imported by R. H. VAN RENSSELAER, Esq. of Otsego county, the whole of which are to be sold on the last day of the State Fair at Watertown. The herd is one of the best in the country.

☞ We have received the Catalogue of Short-Horn Cattle, Suffolk Swine, Poultry, Rabbits, &c., owned and bred by THOMAS GOULD of Glen Mailen, near Aurora, Cayuga Co., N. Y.

THE NEW HAMPSHIRE STATE FAIR for this year, is to be held at Concord, Oct. 8, 9, 10. The Address will be delivered by Hon. GEO. P. MARSH, of Burlington, Vt.

KENTUCKY STATE FAIR.—The first Fair of the newly organized State Ag. Society of Kentucky, is to be held on the grounds of the Bourbon Co. Society at Paris, commencing on the 30th of Sept. The grounds are to be enlarged and additional buildings erected, and every arrangement necessary for a magnificent exhibition will be made.

☞ JONAS WEBB of Babraham, England, the world renowned breeder of South Down Sheep, attended the late universal exhibition of domestic animals at Paris, with specimens of his sheep, where another link was of course added to his chain of medals. He was dressed in a peasant's blouse, under which he wore a magnificent chain, reaching to his girdle. Each link of the chain consisted of a gold medal, received by the owner at some agricultural fair or other, as a prize for the excellence of his South Downs.

THE USE OF GUANO AND OTHER COMMERCIAL MANURES ON THE INCREASE.—By official returns of the Board of Trade for the first three months of the current year, it appears that in Great Britain the imports of guano, bones, &c., are nearly 100 per cent. greater than during the first three months of 1855. During the first three months of these two years, the imports were, of

	1855.	1856.
Guano,.....	35.570 tons.	62.265 tons.
Bones of Animals, ...	5,157 "	9,741 "

We put this fact upon record in our columns as an item of information of some present interest, (which may also be useful for future reference,) and for the sake of some inferences deducible from it. Among these we may reckon this as one of the most important—that the advantages accruing from the use of guano and other concentrated or commercial manures are appreciated more generally every year among our agricultural brethren on the other side of the Atlantic.

SUPERIOR FAT CATTLE.—A drove of seventy-five head of beeves, the best lot we have seen this season, passed through this city on their way to New-York, on Monday. They were all from the farm of SAMUEL H. CLAY of Bourbon county, Ky.

LARGE EGG.—Mr. F. A. IRELAND of Watervleit, has shown us an egg from a hen 14 months old, which weighs 4 ounces, and measures 7 7-8 in. in circumference lengthwise, and 6 1-4 in. in breadth.

A PREMIUM CROP OF HAY.—The reports which were prevalent a year or two ago, about twenty ton crops of hay from one acre, in Great Britain and Italy, passed the *very utmost limits* of credibility. When we were subsequently told that the acre was one-fourth larger than the English or statute acre, or 1 27-100 acre, that the grass was Italian rye-grass, that the land was dressed often with liquid manure, that in this way and by the natural humidity of the climate, the growth was so luxuriant as to admit of seven or eight cuttings in the course of a year, as on the irrigated meadows of Lombardy, and that the hay itself had never been

weighed but only estimated from the weight of grass on a certain proportion of an acre—then our incredulity and surprise were moderated to a certain extent. From some of the remarks which were called forth by the reports alluded to, we are disposed to think that if any farmer were to assert that he had obtained four and a half tons of hay from an acre in any of our Northern, Middle, or Western States, he would be suspected of "stretching it" a little. That this has been done, however, we learn from a late No. of the *Ohio Farmer*, in which it is stated that the premium crop of hay last year, in Summit county, was raised by D. E. FENN, of Talmadge, and the yield per acre amounted to 4 tons and 1,315 lbs. of timothy and red-top.

EXHIBITION OF THE UNITED STATES AGRICULTURAL SOCIETY.—We have received the Prize List for the fourth national exhibition by this Society, which, it will be remembered, is to be held at Philadelphia on the 7th—11th of Oct. next. The Premiums offered amount to over $12,000. The Premiums on Cattle amount to $4,345. The first is a sweepstakes premium of $200, for the best bull and four cows or heifers of any breed. There are five prizes of $100 each, for the best bull and four cows or heifers, of the Short-Horn, Devon, Ayrshire, Hereford and Alderney breeds, and a prize of $50 for the best four grade or common cows. The balance of the sum is divided among the different breeds in the usual classes, including working oxen and fat cattle, the first prize for bulls and cows being in all cases, $100, and the second, $50. The premiums on Horses amount to $4,995—on Sheep, to $870—on Swine, to $445—on Poultry, to $272—on Field Crops, to $615—on Seeds and Vegetables, $142—on Fruits, to $570—on Native Wines, to $120—on Agricultural Implements, to $400.

Premium Lists and Regulations can be had we presume, by addressing the President, the Hon. MARSHALL P. WILDER, Boston, or the Assistant Secretary, Mr. JOHN M'GOWAN, Philadelphia.

CHICORY.—We are pleased to learn that Mr. D. D. T. MORE, is trying an experiment in the culture of chicory. He ordered the seed from England last winter, and the crop now looks and promises well. Should it equal his expectations, it will prove a profitable crop.

HEREFORDS.—GEORGE CLARK, Esq., of Springfield, Otsego county, for some years an extensive breeder of Hereford cattle, has recently purchased of Mr. Goodell, of Brattleboro', Vt., the very superior Hereford bull "Cronkill," imported a year or two since we believe by Mr. Dowley, of Brattleboro'. The price paid for him, $800.

☞ There seems to be something of a contest in relation to the location of the new State Ag. College, one portion desiring it to be located in the village of Ovid, and the other, preferring Sheldrake Point, on the western bank of Cayuga Lake, as the location. The subject is in good hands, who will canvass the matter thoroughly before deciding the question.

AMERICAN HORSES FOR ENGLAND.—R. TEN BROECK, Esq., of Lexington, Ky., went out in the steamer Asia, taking with him three of his best horses, (Lecomte, Prior, and the filly Prioress,) to test their powers with the English race horse on English ground. It is contended by English turfmen that the horse in England has attained the maximum of speed, and that no foreign bred horses are equal to them. In order to solve this problem, Mr. Ten Broeck, confident of the powers of the American bred horse, goes to England, and time will tell the result.

WINTER WHEAT IN NEW-HAMPSHIRE.—Extract of a letter from LEVI BARTLETT, Esq., of Warner: "Upon farther inquiry, I find the amount of winter wheat sown here last autumn, was much larger than I thought for. Over 40 bushels of seed was sown in one small school district. In others, nearly as much—nearly all of which is looking finely. Should it do as well as it now promises, we may set it down as a fact that we can grow winter wheat in New-Hampshire as well as they can "out West."

LARGE CATTLE SALES.—HARNISS RENICK'S sale of Short-Horns took place at Darbyville, Ohio, on the 19th of June. Six mules were sold, averaging about $331 each—Imported "Thornberry" selling to Messrs. Kirkpatrick & Co., Fayette Co, for $1000. Eighteen cows and heifers were sold for $4,395—averaging $244 each.

There was a large sale of Short-Horns, belonging to JOHN CURD, Esq., a well-known breeder of Lexington, Ky., on the 24th of June, consisting of twenty-four cows and heifers, which sold for $7,567, being an average of $315.25 per head. These sales show that there is no falling off in the price of good Short-Horns.

A GREAT CROP OF CORN.—Premium crops of Indian Corn, in New-York, the New England States, and the more northerly of the Western States, seldom exceed 100 bushels to an acre. They more frequently fall below than rise above this amount. In our volumes of last year will be found the statement of Hon. J. W. COLBURNE, of Vermont, to the State Ag. Society's Committee on Farm Crops, giving an account of the mode of management adopted in raising a crop of 113¾ bushels per acre, to which the first premium of the Society was awarded. But, as we have said, in the States named there are more premium crops under than over 100 bushels. In Ohio and Kentucky much larger crops have been reported. For example, the premium crop of Indian Corn last year, (1855,) in Ohio, is reported to have amounted to one hundred and sixty-two bushels per acre.

VICE'S WIND MILL.—The Rochester Daily Advertiser of July 2, says: "It gives us much pleasure to announce the success of the Prairie Flouring Mills, propelled by wind, under the patent of our old townsman, T. C. VICE. Mr. WM. D. SNOW having purchased half the patent, has been industriously engaged on the Western prairies in organizing companies for the erection of flour mills of two run of stone. The erection of one at Bromfield, Illinois, has fully tested their utility, and visited by hundreds. It is just what is required for that section, and contracts for thirty-one mills, at $6,000 each, have been sealed, to be finished at January next. Several are also being erected in Canada. Several of our Rochester mechanics are engaged in their construction in Illinois, Wisconsin, Iowa, and Minnesota.

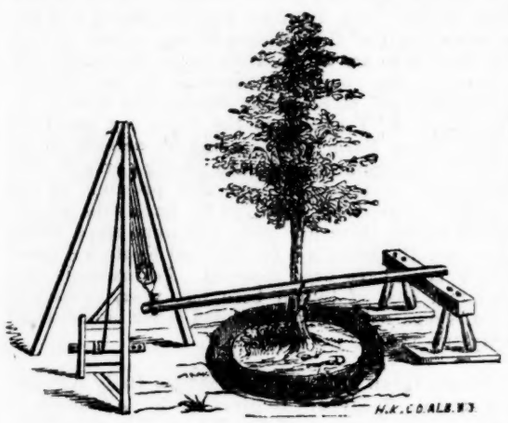
INSECTS.—Before reading the valuable communications of Dr. FITCH, in the Co. Gent., I discovered some cocoons on my young apple trees; some I picked off, and left some remaining. Since reading that, about 1st May, I have examined those I left, and could find no eggs. What I wish to know, is where the insect goes after its first hatch, as I can find no worms on the trees. J. H. B. *Newtown, Ct., May* 28, 1856.

SHEEP HUSBANDRY.—The time of sheep shearing is come, and as usual we are obliged, to sell to agents, buying on commission, who have a certain per cent. on the number of pounds bought, and are restricted to a certain price, above which they must not pay. To make as much as possible, they buy all they can without making the proper discrimination. This is encouraging to the growers of coarse wool, and discouraging to those who have fine wooled sheep. Consequently the wool in Yates county is not as fine as formerly. Every body is aiming to keep coarse heavy fleeced sheep, and wisely because they are the most profitable. S. B. BUCKLEY.

SPLITTING BOULDERS.—Some of your correspondents recommend burning wood upon them. Wood is worth but a dollar a cord with us, and yet I should, as a matter of economy, prefer blasting them. M. F.

Moving Large Trees.

[As a general rule, it is much better to transplant small or medium sized trees than large ones. The same labor spent in deepening and enriching the soil, would often make a larger, handsomer, and more luxuriant tree of the smaller, at the expiration of ten years. But there are special reasons often occurring, which render it very desirable to remove large specimens, not the least of which is to secure a temporary shade for a new and bleak residence, until something better grows. Other cases are mentioned by our correspondent, whose mode has several advantages to recommend it, although some trees would be sensitive of the wound which it is necessary to make, while with others it would be a matter of little importance.]



In the Country Gentleman, for March 20th, F. C. R., of Tariffville, has made several inquiries in regard to moving trees in winter.

The preceding figure represents the apparatus, which I use for such purposes, attached to a tree, about to be removed. It consists of a set of shears, about sixteen feet long, with a windlass attached to the single shear, around which the slack rope of the tackles is wound, when the machine is worked. A good stiff pole or stick of timber, twelve or fourteen feet long, is fastened to the tree, with a large clevis and chain, by boring a hole through the tree, for the bolt, as near to the ground as can be; this hole must be filled again with grafting wax, or pitch, after the tree is transplanted. One end of this pole is supported by a strong bench, three feet high, standing on plank to prevent its sinking into the ground. With the tackles hitched to the other end of the pole, the tree is lifted high enough to allow a sleigh, or stone boat, to be backed under it to receive the tree with the ball of earth.

When trees are to be removed, my practice is to dig a trench about them, about eight or ten inches deep, or more, according to the size of the tree and extent of the roots. This should be done *when the ground is not frozen;* and if done one year before the tree is removed, the tree will be much better prepared for its removal, by sending out numerous spongioles, which will hold a greater amount of earth in the ball, which is lifted with the tree. In the winter, the snow and leaves should be cleared away from such trees, so that the ball of earth may freeze thoroughly.

The next thing of first importance is, *to have the holes dug before a tree is brought on to the ground.* Even if they are filled with snow, that is readily removed when a tree is ready to be placed in them. Holes should always be dug sufficiently large to receive the ball of earth, without resting on the edges; and care should be exercised to have the trees no deeper in the soil than they naturally grow. Trees of considerable height should be stayed up with four guy wires, to prevent the winds from blowing them over. These guy wires should be fastened to the tree with small staples driven into the tree, and to stakes driven into the ground. When trees are small we may dispense with the pole and bench, and hitch the tackle directly to the tree; and in *unloading* trees, I seldom use the pole and bench.

A few years since I removed several evergreens from the forest, from twenty to thirty feet in height, and four to six inches in diameter; and those which were unloaded directly into holes already prepared, are now alive; while all of those which were unloaded on the north side of my house, and the roots covered with moss and straw until the ground thawed—as I have seen recommended in some agricultural papers—died the same season.

When the machine is hitched to a tree, and we have lifted on it almost enough to start it, we should take a lever, or crowbar, and loosen the ball of earth a little, all around the trench. This precaution will sometimes prevent the ball of earth from breaking, and the breaking of some part of the machine also.

With this machine I have often gone two miles from home, and returned with a large tree and ball of earth six or seven feet in diameter and eight inches in thickness, loading and unloading *entirely alone*, in two hours and a half. I mention this fact to show the efficiency of the machine; and that it may be handled and worked advantageously by one man.

Instances are of very common occurrence, where it is necessary to remove valuable trees in the summer or late in the spring, when we cannot avail ourselves of a frozen ball of earth. When I lived with my father, about 17 years of age, a valuable pear tree must be removed in order to make room for the wood-house. It was so old and large that everyone thought it absurd to attempt to transplant it, with any expectation of its living. We had eaten too many delicious pears from that tree to see it cut down, which was the orders; but, in laudable obstinacy, we took it up in the middle of June and transplanted it; and it bore pears the same year, and is a valuable bearer even now.

Last season, a neighbor of mine in making room for his buildings, cut down a pear tree for which, he said, he would have willingly given twenty-five dollars, could it have been transplanted with safety. We assured him that we would have removed it, warranting it to live and do well for the future, for one-half that sum. How would you have done it? I will answer as I then told him; and the answer will show how almost any tree of ordinary size may be removed with success, unless the soil is very loose and porous.

Dig a trench around the tree from six to ten feet in diameter—according to the size of the tree and extent of the roots—and about a foot deep. Then fasten small wires to the ends of the roots where they are cut off in the ball of earth; and from thence to the body of the tree, 8 or 9 feet above the ground. When there are but few roots, the lower ends of wires may be fastened to little pins, driven into the ball of earth. These wires will aid greatly in raising the earth with the tree, and prevent the ball falling to pieces. Now raise it carefully; and plant it in a hole in which six inches in depth of rich, light soil is mixed with water, about as thin as common mortar. If the operation be skillfully performed, the tree will suffer no inconvenience. S. EDWARDS TODD. *Lake Ridge, Tompkins Co., N. Y.*

Indian Pudding.

Take eight table spoonfuls of fine Indian meal; pour into it one quart of boiling milk, with six eggs, one nutmeg, and six ounces of butter. Bake this quantity in three dishes.

On Fish Manures.

WRITTEN FOR THE CO. GENT. BY S. W. JOHNSON.

There are various agencies at work in nature, which tend to remove from the soil of the land, its soluble ingredients,—those which render it fertile—and carry them down into the sea. Rains are the most universally active in this work, and not only do they take up soluble matters, but sweep away mechanically, enormous quantities of the finest and richest parts of the soil from the field into the rivulet, thence to the brook, the river, and finally the ocean.

The other cause of the loss of matters that would enrich the soil, is found in the continual transport of food from the inland country, to feed the dwellers of cities, nearly all the waste of which is speedily washed into the rivers or sea; not a thousandth part being ever returned to fertilize the farms whence it originally came.

This latter waste has caused much talk, and some attempts have been made towards remedying it, but with very partial success. The question has latterly presented itself, whether it is not better, i. e., cheaper, to give these matters over to the sea without complaining, and indemnify ourselves by making reprisals of more valuable materials. Possibly we may be the gainers by giving to it unreservedly our city refuse, and taking fish in exchange! Certainly the practical difficulties in economizing the night soil of large towns suggests this inquiry.

But it were better to save all we can from passing into the sea, and at the same time, to win from it, what it can be made to yield for fertilizing the land.

Guano is an indirect contribution of the ocean to Agriculture. The sea fowl manufacture it from the fish with which the sea is everywhere teeming.

The idea of making the accomplishment of the same purpose a branch of human industry is not old. How promising it appears to be, we may understand by contemplating the quantity and cheapness of the raw material at our disposal, and the resources which modern science and capital have at command.

I will only offer a specimen of what statistics show as to the supplies of fish which the ocean may yield. According to an article in the 9th vol. of the last (8th) edition of the Encyclopedia Brittanica, the quantity of *white herrings* caught and dressed in Scotland and the Isle of Man, amounted in 1853, to 908,800 bbls.; in 1854, to 740,351 bbls. In England and Scotland together, in 1849, an extra season, 1,151.979 bbls. were disposed of as food.

From the information I have been able to gather, it appears that the first attempt to manufacture a portable manure from fish, was made at New Haven, Connecticut, as early as 1849, by Mr. LEWIS. The white-fish, *Clupea menhaden*, was employed, and after a good deal of experimenting, a quantity of the manure was sent into market, but from causes unknown to me, the enterprise was discontinued. Analyses made in this laboratory at the time, under the direction of Prof. NORTON, represent the amount of nitrogen in the product as high as 10.23 per cent., equal to 12.42 per cent. ammonia.

The second effort was made by DE MOLON, a Frenchman, in 1851 or 1852.

Afterward, PETTIT and GREEN, in England, engaged in the manufacture, and within the last two years we hear of numerous successful efforts in the same direction.

Two methods are employed in the preparations. The simplest, that of DE MOLON, and I believe also that employed in the New-Haven manufactory, consists merely in boiling or steaming the fish, until they are disintegrated to a pasty mass; then pressing them to separate the oil, which itself is economized; then drying the cake left after this operation in a current of hot air, and finally grinding it to powder.

PETTIT'S patent process involves the use of sulphuric acid, which is added to the fresh fish, and has the same effect as steam in destroying their consistence. After treatment with sulphuric acid, the mass is pressed and dried as above.

DE MOLON has at present an establishment on the island Kerpon near the Straits of Bell-Isle, which was fitted up to employ 150 workmen, and sends yearly to France, large quantities of *Tangrum*, as the product is called. This name seems to be applied to the manure prepared from herrings, or herring refuse.

At Concarneau (Finistère) is also a large manufactory of fish-manure, in which in 1854, the labor of 6 men and 10 children produced daily for 200 days in the year, 8 to 10,000 lbs. of dry manure, from 36 to 40,000 lbs. of fish or fish refuse. About half the supply of the raw material, is the refuse of the Sardine fisheries. Arrangements are making to increase the product to 8,000 tons yearly. This manure is sold at $35.00 per ton. It is represented to contain 12 per cent of nitrogen, equal to 14½ of ammonia, and 6 per cent of phosphoric acid; and is considered much cheaper than Peruvian guano.

According to an article in the Practical Mechanics' Journal, Nov., 1853, the cost of making 50 tons of fish manure by Pettit's patent method, is as follows:

100 tons fish at £2 lb. per ton, ...	£200	
Sulphuric acid,.....	17	10 sh.
Labor, ...	25	
Total, ...	£242	10 sh.

The cost of one ton is therefore £4 17s, not including interest or capital invested, wear and tear, &c. The price paid for fish is the chief expense of the manufacture, and when reduced one-half or more, as can be done in some localities, we see how promising this manufacture is. It is to be considered too, that the fresh fish yield, when steamed, 2 and 2½ per cent. of oil, the value of which must be deducted from the cost of the fish manure.

A company has recently been formed at Christiana, in Norway, with the object of making fish manure. Samples of their first products have been analysed by Stockhardt, (*Chemischer Ackersmann*, 1856, No. 2,) and contained about 10 per cent. of nitrogen, and 8 per cent. of phosphates of lime and magnesia.

On the coast of the North Sea, in Oldenburg, an excellent manure is made from a kind of small sea-crab that is caught there in large quantities. The crabs are simply dried and ground. According to an analysis in Liebig's *Annular der Chemie*, March, 1856, this manure, called GRANAT-GUANO, from the name of the crab, contains 11.23 per cent. nitrogen, and 5.23 per cent. phosphates of lime and magnesia.

In the United States, the newer attempts at making commercial fish manure, are but two, viz., that in New Jersey, furnishing the *Cancerine*, and that of the Narragansett Co., in Rhode Island. The former I have not had an opportunity of examining, but the analysis of it by Prof. BOOTH, quoted in the Country Gentleman of June 12, must be erroneous or erroneously copied.* It is as follows:

Ammonia,.....	25.57	per cent
Organic matter,.....	29.23	"
Phosphate of lime,.....	5.90	"
Sulphate of lime, ...	10.32	"
Silex, ...	1.20	"
Water,.....	26.10	"
	98.32	

Here we have 43.52 per cent. of phosphate and sulphate of lime, silex, and water; there remains then but 56.48 per cent. of the whole, as the material to

* It was correctly copied by us from Prof. COOK'S Report. —EDS.

furnish 25.57 per cent. of ammonia. Now suppose this 56.48 per cent. of organic matter is pure flesh of crabs, and assuming what I believe is true, that no muscular tissue contains more than 17 per cent. of nitrogen, we have 9.6 per cent. of nitrogen, or 11.7 of ammonia as *the largest quantity that can be found in or yielded by* the organic matter in Cancerine, unless we take into account a little uric acid, contained in the urinary organs of the crabs, which however cannot materially affect the estimate. To show that this conclusion is not entirely fanciful, the analysis of the "Granat-Guano," made in the Agricultural Laboratory of the University of Goettingen, may be cited in full. It is as follows. The substance dried at 212 deg. F. gave:

Organic matter, (containing 11.23 of nitrogen,)	69 20
Phosphate of lime,	4.34
" magnesia,	.92
Carbonate of lime,	6 32
Salts of potash and soda, and oxyd of iron,	5.52
Sand,	13 64
	99.94

This manure, with 69.20 per cent. organic matter, yielded but 11.22 per cent of nitrogen, equal to 13.64 per cent. of ammonia; while *Cancerine*, containing but 56.48 per cent. of organic matter of the same kind, (flesh of crabs,) is stated to yield 25.57 per cent. of ammonia!

Assuming the ratio of ammonia to organic matter to be the same in both, and this is entirely reasonable, then we have the following proportion:

69.20 : 13.64 :: 56 48 : 11.13,

the last term of which expresses the greatest per centage of ammonia that can be contained in a specimen of *Cancerine*, such as Prof. BOOTH analyzed. It will be seen that the two independent calculations lead very nearly to the same result.

[*To be continued.*]

A New Wind Power.

MESSRS. EDITORS—Believing that any information, which would be interesting to the readers of your papers, would be acceptable to you, I communicate the following.

The rapid rise in the price of labor of late years, has led many farmers and mechanics on our western prairies, where wood and water is scarce, to wish that some one would invent a wind-power that would be safe to invest in upon a large scale, for milling or any other purposes desired. I have been looking for some one among the many wind-powers that have been invented and patented for the last two or three years, to be so constructed that the whole machinery would be equally safe in a gale as the building upon which it stood. But I find none to satisfy me that it is so upon a large scale; yet there are many that deserve much credit, and will no doubt receive it.

During the past winter, I set myself at work to get something that would operate as a wind-power to my liking, and triumphed after several trials. The nature of it is, that it is always in a position to receive the full power of the wind, and more than can be used by any other of the same diameter, from the fact that the wheel or cylinder upon which the wings are placed, is completely housed in an octagonal shaped frame-work, with doors so arranged that they can all be thrown open or shut at pleasure in the strongest wind by one person, and when open to a certain position, they form a tunnel, or a large surface for gathering the wind and turning it to the wheel. It is simple yet permanent, and easy to build; any good carpenter can build from the drawing or model. It is a perpendicular shaft, which may extend down through the building upon which it is placed, so that it may be geared to in each story at pleasure. I have shown it to many, some of whom are first best mechanics, and all give it the preference, and pronounce it the thing. It was patented May, 1856. M. S. JOHNSON. *Palestine, Ill.*

The Sponge Apple.

A correspondent asks for a description of this apple, which has been cultivated to some extent in Western New-York. Some years ago the writer sent specimens to F. R. Elliott, of Cleveland, who pronounced it nearly or about equal to the Gravenstein, and who has since described it in his fruit book, among the apples for "amateur culture." We think it inferior to the Gravenstein, but it is recommended by the free growth of the tree, its productiveness, fair fruit, and by the very tender texture of the apple in spring, if properly kept through winter. It is too acid till quite ripe. It is large, roundish conical, yellowish green, slightly striped with red, stem short and in a very small cavity—flesh greenish white, very tender when ripe, flavor good, and the fruit much admired by some for its peculiar texture.

The Illustrated Annual Register.

Two numbers of this work are now issued—for 1855 and 1856—and it will hereafter be published regularly, toward the close of each year; and every person who takes any interest in rural affairs should be careful to secure the work from its commencement. In a few years it will form a more valuable RURAL LIBRARY than can be procured in any other shape for ten times the money.

PRICE—in paper covers—25 cents—Five copies, $1—Twelve copies, $2. Bound in muslin, 50 cents. *Sent by mail post-paid.*

☞ The number for 1857 is now in press, and will be issued in September.

Volumes of the Cultivator.

☞ The volume of THE CULTIVATOR for 1855, we have now ready, stitched in paper covers, and bound in muslin—price, *where we prepay the postage*, 75 cents for the former and $1 for the latter.

We have already spoken of the importance of possessing THE CULTIVATOR in library form, to those who would have the best and cheapest of works on American Agriculture. Embodying, as its volumes do, the practice of numbers of the ablest and most successful farmers of the country, it is believed no work can be found, containing so great a variety of reliable information on all the subjects it embraces, and at so little cost; and the beginning of the Third Series offers a favorable opportunity to all to secure unbroken sets from that period. Three Volumes are now ready—Price of the three, neatly and durably bound, and *post-paid*, $3. Sewed in printed covers, and *post-paid*. $2.

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